

CLIMATE CHANGE, ENERGY AND ENVIRONMENT

PEET

The Political Economy of Energy Transition
in Southeast Europe – Barriers and Obstacles

**Pippa Gallop, Emily Gray, Elena Nikolovska,
Alexandru Mustață and Raluca Petcu**
September 2021



Nine countries, one region: a first-of-its-kind political economy study on the barriers to an environmentally, socially, and economically sustainable energy transition in SEE and how to overcome them.



Understanding the interplay of private and public interest in energy. Lack of political courage to tackle mine closure and just transition.



Spotting false or other over-rated solutions and not falling for them. Focusing on transposing and implementing EU rules affecting the energy sector. Commendable actions for a bottom-up and top-down approach, strengthening the overall rule of law and benefiting from the regional synergies and cooperation.

CLIMATE CHANGE, ENERGY AND ENVIRONMENT

PEET

The Political Economy of Energy Transition
in Southeast Europe – Barriers and Obstacles

Content

PREFACE	2
EXECUTIVE SUMMARY	3
INTRODUCTION	6
ALBANIA	26
BOSNIA AND HERZEGOVINA	38
BULGARIA	52
CROATIA	70
KOSOVO	82
MONTENEGRO	100
NORTH MACEDONIA	114
ROMANIA	124
SERBIA	138
 Annex I – Selected Topics for Further Investigation by Journalists, NGOs and Independent Experts	 156
Annex II – List of Interviewees	158
Annex III – Methodology And Interview Questions	159



PREFACE

The socio-ecological transformation of Southeast Europe (SEE) begins with and depends on the energy transition of the region. The looming global climate crisis, ever-growing regional air pollution levels, and social inequalities alone could be mitigated in the SEE with the well-designed and thoroughly implemented energy transition. Yet, despite all reasons, excellent inter-connection of the countries and the existing technologies that could improve the efficiency of energy systems and overall use of resources, the region, especially the Western Balkans (WB) is still lagging. While most of the European Union countries are well on their way to decarbonize their energy systems, the SEE and the WB in particular, are still grappling with the preceding transition-liberalization of energy markets, thus doubling the challenge.

To better understand why the feasible and desirable transition is not taking place, and having in mind the regional nuances and challenges, we decided to explore and eventually communicate the causes for inaction, the interaction of political and economic processes within society. Ultimately, the goal was to answer what would need to happen for an energy transition to take place. In the spring of 2020, we were set to launch the call for the Political Economy of Energy Transition Study (PEET Study). But, the COVID-19 pandemic hit the region, and doing business as usual seemed socially insensitive, prompting us to postpone the call for the PEET Study. However, soon we would learn that the pandemic nostalgic calls for “going back to normal” also meant even further delays for the energy transition. As the pandemic gave us a preview of the climate crisis in terms of unequal share of burdens and showed us the value of regional and international cooperation, we not only acted, but we extended the research from the initially planned five to nine SEE countries. To step up our work we went from plans to eventually communicate to immediately sharing the results i.e. as they would come. Coupled with the adoption of the Green Agenda for the Western Balkans in November 2020, the European Union (EU) internal debate around and implementation of the European Green Deal, and continuous support of all the partners in transi-

tion, the response has been overwhelming. By June 2021, we reached our target groups in all the regions’ capitals, Berlin, Brussels, and Vienna.

At the same time, the PEET Study fits into the FES-wide project “Sovereign Europe”. This project, coordinated by the FES headquarters in Berlin, is developing ideas and proposals in five fields of action – among them socio-ecological transformation – on how the EU can become more capable of global politics, starting with its closest neighbors.

In answering the PEET Study’s goal, the report provides insights into the vested interests between public and private actors capturing the states. It shows that the structures supporting the energy transition rely upon and value more the actors like the Energy Community Secretariat than their own governments. The report goes beyond collecting the insights and offers region-wide recommendations and country-specific directions for a sustainable energy transition, perfectly suitable for a mix of bottom-up and top-down approaches.

Even though there are more reasons for concerns than optimism about the region’s energy transition, we remain hopeful. As the FES Regional Dialogue and our national offices remain committed to advancing a socio-ecological transformation, social and economic justice in SEE, we are more confident knowing that we have partners in transition and values, like all of those that participated in the Study.

Our most sincere gratitude goes to the CEE Bankwatch Network and all the authors, namely Pippa Gallop and Emily Gray, who took professionalism and productivity to new levels.

Sarajevo, September 2021

*Selma Šehović, Project Manager / Dr Ralf Melzer, Director
Friedrich-Ebert-Stiftung Regional Dialogue Southeast Europe*

#FES4ET

<https://bit.ly/FES4SET>



EXECUTIVE SUMMARY

Southeast Europe¹ is embarking on a transition towards an energy-efficient, renewables-based economy. Not all the countries are actively embracing it yet, but the impacts can nevertheless be felt. Coal is becoming unprofitable and the decreasing cost of wind and solar is increasing investments.

But this process needs to speed up. Southeast Europe's aged and highly polluting coal plants need to be replaced by sustainable forms of renewable energy, and the region's energy wastage needs to end. To address the global climate emergency and fulfil its Paris Agreement commitments, the EU – which in the coming years should also include the Western Balkan countries – has to stop using fossil fuels by 2050 at the latest. This means not only coal – which has to be phased out much earlier – but oil and gas as well.

In order to succeed, decarbonisation has to be economical, environmentally and socially sustainable. Its potential benefits include clean air, warm and comfortable housing, and employment generation. But it also has costs for those currently employed in the fossil fuel industry. And, if not done well, it can result in serious environmental damage, e.g. for forest biomass or hydropower. The EU's flagship European Green Deal policy strives to tackle these issues together, combining net zero emissions of greenhouse gases by 2050, decoupling resource use from economic growth, and making sure that no one is left behind in this major transition.

But while Greece and Hungary have pledged to phase out coal by 2025, it is no secret that many of their regional neighbours are lagging behind.

As EU members, Romania, Bulgaria and Croatia had to act earlier than the Western Balkans. But they have been slow to commit to coal phase-out dates and have made serious mis-steps, being distracted by gas investments and developing their renewables sectors in an environmentally and economically unsustainable way.

For the six Western Balkan countries, membership in the Energy Community Treaty helps them to prepare for EU ac-

cession. Under the Treaty they have committed to implement selected EU rules on market reforms, energy, State aid and the environment. In November 2020, these countries also signed the Sofia Declaration on the Green Agenda for the Western Balkans. Among other things, this meant they formally committed to adopt the EU's Climate Law and thus to decarbonisation by 2050.

Yet Serbia and Bosnia and Herzegovina are still planning new coal power plants, while air pollution from the region's existing coal plants, heating and transport causes premature deaths across the region and further afield.

This study, consisting of a regional synthesis report and nine country analyses, examines the barriers to an environmentally, socially and economically sustainable energy transition in southeast Europe based on CEE Bankwatch Network's experience, desk research and interviews with country experts.

It looks at the causes for inaction and mis-steps by decision makers, private interests, and other structures and identifies political avenues and platforms that could circumvent or overcome opposing factors. To succeed in speeding up a sustainable energy transition, these would have to be likely to receive popular and/or political support and we have identified actors who are key to achieving this.

The main key factors identified that hinder a sustainable energy transition vary for each country, but regionally we assess them as follows, starting with the most important:

- **State capture, geopolitics, and lack of rule of law and accountability.** This broad set of issues encompasses energy sector decision-making which puts special interests ahead of the public interest. It includes everything from state-owned utilities' excessive influence on policymaking, to non-transparent energy deals with Russia and China and renewable energy incentives schemes that benefit businesses close to governments.
- **Outdated view of the energy system, false solutions and lack of understanding of the speed of change.** It is often difficult to tell whether poor decisions on energy policy result from serving special inter-

¹ This study covers Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Kosovo, Montenegro, North Macedonia, Romania and Serbia.

ests or a lack of knowledge and analysis of the current state of the sector. Our experience suggests that a mixture of both is often involved.

- **Incomplete transposition and implementation of EU rules affecting the energy sector.** EU environment, climate, energy and State aid rules, although not perfect, drive energy transition. The EU's environmental legislation also helps prevent destruction of sensitive areas, e.g. by energy and transport infrastructure. Though the countries vary in their adherence to EU law, pollution control, air quality, State aid and biodiversity protection remain problems in most cases.
- **Lack of political courage to tackle mine closure and just transition.** Direct political pressure from coal mining unions is not as high in some of the countries as might be expected, but indirect pressure exists. The governments count on public utilities' employees and subcontractors for political support in elections, again raising the issue of state capture. This, together with the fact that most governments have developed no plans to mitigate the social impacts of the transition in coal regions and other fossil fuel-dependent areas, makes many decision makers reluctant to commit to a coal or wider fossil fuel phase-out.
- **Lack of political will to open markets, cooperate and realise regional synergies.** Opening markets and moving to cost-reflective energy tariffs is a major political difficulty in several countries. People are used to low, regulated prices and many cannot pay more, due to a vicious circle of energy inefficiency and energy poverty. Political barriers between certain countries clearly exist, but experience shows that national authorities can mostly cooperate with their neighbours when they want to, they just do not always prioritise it.
- **Political instability and lack of institutional capacity.** In countries like Montenegro, North Macedonia and Croatia, which are politically in favour of energy transition, a shortage of experienced staff at the central and local government levels is emerging as a key issue preventing better progress. It is also an issue in the other countries, but other factors such as state capture seem to play a stronger role at the moment.

Region-wide recommendations on how to overcome the barriers to a sustainable energy transition are provided in this synthesis report, while more specific recommendations are provided in the country analyses. Most of these issues are much wider than the energy sector and require further sustained efforts by all actors to improve democratic development, the rule of law, institutional capacity and transparency and accountability of decision-making. There is no alternative but to step up the painstaking work done every day in this field by public institutions, journalists, civil society organisations and the international community and to make sure that decision makers are held accountable for their actions.

The international community has a major role to play. For the EU Member States, the EU's role in oversight and enforcement of EU legislation is clear, but needs to be stepped up. For the Western Balkans, the EU and EU governments can also make a difference by supporting the strengthening of the Energy Community Treaty, sending consistent messages to governments, sticking to no-regrets investments and insisting on transparency, real public participation, institutional ownership and coherence with EU policies as conditions for any donor-funded projects.

Considering the potential benefits of a sustainable energy transition, decision makers across the region need to take ownership of the process. They need to utilise the collective expertise available from experts, civil society and the private sector to find ways of making decarbonisation work for the wider public in their countries, including at the local and household level.



INTRODUCTION





IS AN ENERGY TRANSITION TAKING PLACE IN SOUTHEAST EUROPE?

Southeast Europe (SEE) is gradually embarking on an energy transition, even if not all the countries are actively embracing it yet. The region is home to numerous old, highly polluting power and heating plants which urgently need to be superseded by sustainable renewable technologies. At the same time, in order to fulfil its commitments under the Paris Agreement, the EU – which in the coming years should include all of the Western Balkan countries as well – has to stop using fossil fuels by 2050 at the latest. This means not only coal – which has to be phased out much earlier – but oil and gas as well.

Those countries already in the EU¹ have been nudged forward by EU policy and legislation. A combination of measures including renewable energy promotion, pollution control and State aid legislation meant that coal and fuel oil generation started to decrease from 2000 to 2013² while emissions trading has also started to have a greater impact in recent years as emissions prices have increased.³

In the last two years, the EU's European Green Deal has attempted to couple decarbonisation with a wider sustainability agenda, and seeks to ensure that:

- there are no net emissions of greenhouse gases by 2050;
- economic growth is decoupled from resource use; and
- no person and no place is left behind.⁴

Reducing the use of coal is going remarkably quickly across the EU – in fact, power generation from coal *halved* between 2015 and 2020.⁵ In 2020, renewables⁶ also overtook fossil-fired generation for the first time, generating 38 per cent of Europe's electricity, compared to 37 per cent from fossil fuels.⁷

Moreover, countries that have traditionally used lignite, in particular Greece and Hungary, have made dramatic turn-arounds in recent years. In September 2019, both countries announced coal phase-outs, by 2028 and 2030 respectively,⁸ despite Greece being in the middle of building a new coal plant, Ptolemaida V. Both countries later brought forward their coal phase-out to 2025,^{9, 10} and Greece has announced that all plants except Ptolemaida V will close by 2023.¹¹ As of March 2021, Slovenia was also proposing a coal phase-out in 2033,¹² despite the Šoštanj 6 lignite unit having received its operating permit only in early 2016.¹³ Such moves are a clear sign that the end of coal in the EU is coming faster than anyone expected.

However, gas remains a huge issue, as does oil-based transport. In the power sector, while lignite and hard coal CO₂ emissions have been decreasing, CO₂ emissions from gas have been rising, and in 2020 made up a record 34 per cent of the power sector's total emissions¹⁴ – and that is without taking into account methane emissions from the extraction, processing and transmission of the gas.¹⁵

In the southeast European countries which are part of the EU, these changes are steering the countries' energy sectors away from coal, but the countries have been slow to acknowledge the quickly-changing reality and seizing the opportunities for greater energy efficiency and sustainable forms of renewable energy. This should be driven not only by EU rules and economic factors that are driving coal out of the energy mix, but also by the fact that much of the region suffers from choking air pollution, most of which results from energy and transport.

In the Western Balkans, all the six countries¹⁶ – sometimes called the WB6 – are members of the Energy Community Treaty and aspiring EU members. As such, they will have to follow EU policies and legislation, and as the energy transition speeds up in the EU, they will have to run ever-faster to catch up.

Being members of the Energy Community Treaty, a kind of 'EU-light' for the energy sector, helps them to prepare for this, and in the framework of the Treaty they have committed to implement selected EU rules on market reforms, renewable energy and energy efficiency, State aid and environment.

In November 2020, all of the WB6 countries signed up to the EU's Sofia Declaration on the Green Agenda for the Western Balkans.¹⁷ This meant they formally committed to adopt the EU's Climate Law and thus to decarbonisation by 2050, as well as a host of other tasks related to areas such as the circular economy and depollution. This was a moment of strong political significance, but as the declaration itself did not contain deadlines or mechanisms for delivery, much depends on the follow-up action plans which are to be prepared with the support of the Regional Cooperation Council.¹⁸

On the ground, within the WB6, a two-speed transition is underway.¹⁹ Just three years ago, five out of the six countries were still planning to build new coal power plants. Today that number is down to two – Serbia and Bosnia and Herzegovina,²⁰ which opens space for discussions and planning for full decarbonisation. Some kind of a transition will happen, but the question is whether it will bring the necessary environmental and social benefits such as clean air, prosperity for former coal mining regions and new workplaces, and whether it will be achieved at a reasonable cost.

Starting from 2020, every six months the Energy Community Secretariat provides an update on key indicators related to the energy transition, called the WB6 Energy Transition Tracker.²¹ This provides a good overview of the progress so far and is a useful tool for holding governments accountable for the commitments they have taken on. Yet clearly there are much deeper stories behind such indicators, what has been achieved and what not. All of these have their reasons, and it is these which we have tried to dig into.

The objectives of this study and the accompanying country analyses are to:

- Analyse the causes for inaction and mis-steps by decision makers, private interests, and other structures in supporting a sustainable energy transition in southeast Europe.
- Identify political avenues and platforms that would be able to circumvent or overcome opposing factors and be likely to receive popular and/or political support to speed up a sustainable energy transition in the region.

We look at nine countries: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Kosovo, Montenegro, North Macedonia, Romania and Serbia, in order to include a spread of EU and non-EU countries, and try to answer the following questions:

- What are the causes for inaction and mis-steps made by decision makers, private interests, and other structures in supporting an energy transition in southeast Europe?
- What would need to happen for a sustainable energy transition to take place at a more rapid pace?

Here we need to emphasise the need for a *sustainable* energy transition – environmentally, socially and economically, and it is within our understanding of this term that we have examined the countries' actions so far. Closely related is the notion of *mis-steps*, as numerous potential pitfalls exist that can be aimed at advancing energy transition, but which may turn out to be expensive, counterproductive digressions.

The research consists of this overview paper, together with nine country analyses. These are based on a combination of CEE Bankwatch Network's experience in the countries, desk research and four to five expert interviews per country. Interview respondents included civil society representatives, independent experts, journalists, and industry representatives,²² with the interviews being carried out between October 2020 and April 2021.

The interviewees were provided with a set of questions including a list of potential barriers to energy transition²³ and asked to comment on the importance of each. They were also asked to name other possible barriers not mentioned. Thus, the country analyses examine a similar list of barriers but vary somewhat in the degree of importance assigned to each, and in some cases additional barriers were added based on the interviewees' inputs. Supporting quotes from interviewees were included but left anonymous in order to ensure that the readers concentrate on what is being said and not on who is saying it.

The country analyses go on to recommend horizontal measures and directions for the energy transition in each location, together with pointers on which actors can play a role in making these happen.

This synthesis report presents a snapshot of the energy situation across the region, with some main similarities and

differences between the countries, followed by an overview of the main factors hindering transition in different countries. There are large variations among the countries, but all the same there are several factors which apply to several of them. The report then discusses how to overcome these barriers and presents conclusions and recommendations that apply regionally, or at least to several countries. In Annex 1 we also provide a list of topics for further investigation by investigative journalists, non-governmental organisations (NGOs) and experts that might help to uncover more detailed barriers to transition.

It is hoped that the research will be of use in informing further action for tackling these barriers to energy transition, with overall benefits for people's health, the environment, and the economic sustainability of the region's energy sector.

A SNAPSHOT OF SOUTHEAST EUROPE – SIMILARITIES AND DIFFERENCES BETWEEN THE COUNTRIES

The nine countries analysed vary enormously, from Kosovo with almost all of its power generated from highly-polluting lignite, to hydropower-dependent Albania. The other Western Balkan countries range somewhere in between, with various degrees of lignite and hydropower and only a smattering of wind, solar and other sources such as gas. The three EU countries have much more diverse generation capacity, which is partly a legacy of their pre-1990 energy mix, partly due to their existing connections to international gas networks, and partly a result of having introduced newer forms of renewable energy earlier than their WB6 peers.

Some countries are net exporters of electricity, notably Bulgaria and Bosnia and Herzegovina, while others import most years, namely Albania, Croatia and North Macedonia. Others generate roughly the same as they consume or have a small deficit, including Romania, which used to be a net exporter.

Yet the countries analysed also have many things in common. They all have a background of strongly centralised energy planning, with vertically integrated utilities following a highly centralised high-demand, high-production model of electricity generation, usually with very high levels of air pollution. This is very far from the more dispersed network model that should result from the energy transition, based on producing and consuming energy as efficiently as possible, with the lines between producers and consumers blurring. Consumers should become not only producers but also storers of energy, e.g. in vehicle batteries.

None of the countries are at an advanced stage of introducing this model, but some have made more progress than others in either reducing the dominance of the incumbent utilities or opening them up to accept the role of new renewables. In our assessment, the least progress has been made in Bulgaria, Bosnia and Herzegovina (particularly Republika Srpska) and Serbia, with the most progress



made in Croatia, North Macedonia and Montenegro, where the incumbent utilities still hold most of the generation capacity, but are increasingly undertaking solar and/or wind projects.

All the countries have good potential for energy transition due to an abundance of sun in at least parts of the countries, and good wind potential, but progress with taking advantage of this is highly variable. The countries' overall renewable energy shares provide little real information on how they are advancing, due to the widespread use of wood in heating, and the fact that figures are not available for all the countries even for 2019 yet. In the Western Balkans, several countries have revised their estimates on biomass use, making it even harder to track whether any real progress has been made. The situation is further complicated by the high share of hydropower in some of the countries, which can have a noticeable impact on renewable shares from year to year.

What we can say, is that in 2019 it was the three EU countries analysed which had the highest share of domestic electricity generation from wind and solar – Romania (14.3 per cent), Croatia (9.7 per cent) Bulgaria (6.2 per cent) – and Albania had the lowest, at 0.4 per cent.²⁴

All the countries also have huge – and mostly unrealised – potential for energy savings. Even in the countries where transition is clearly advancing, energy intensity²⁵ is still high. Bosnia and Herzegovina's is the highest, at more than 4.6 times as high as the EU average.²⁶

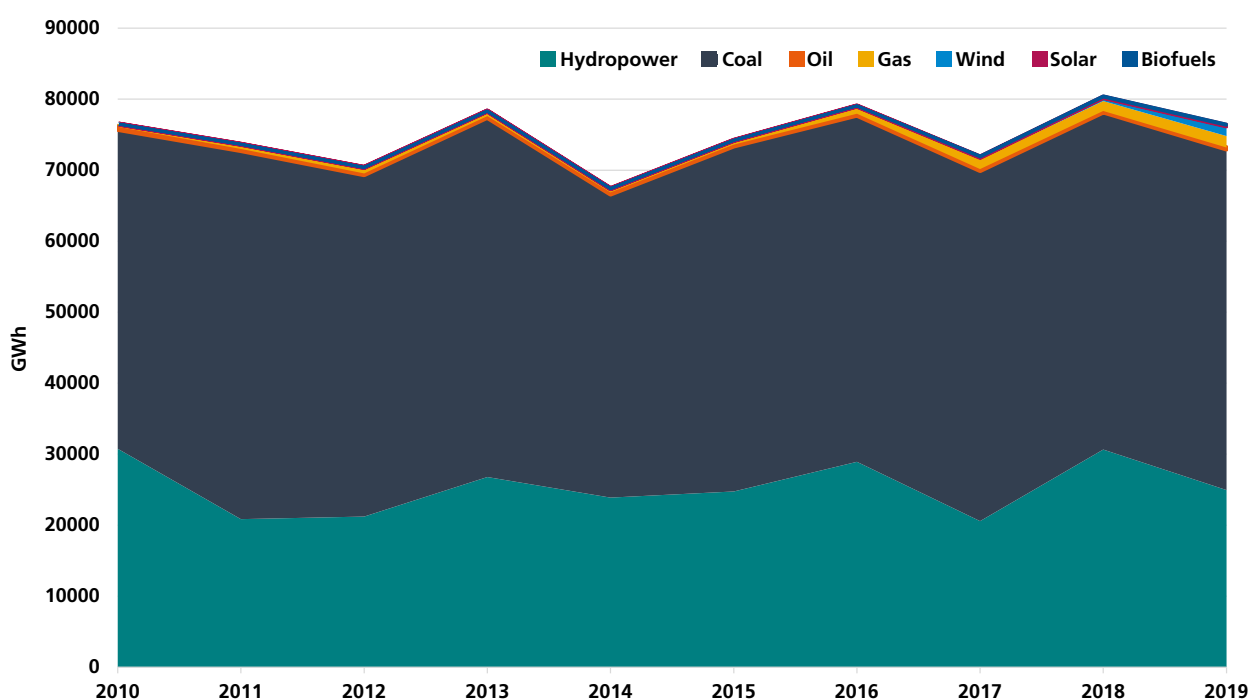
Despite the fact that all the countries have energy strategies of some kind, and some have National Energy and Climate Plans (NECPs), they all lack a long-term sustainable energy vision and ownership of the energy transition agenda. The countries are not uniform in this regard: Croatia, Montenegro and North Macedonia are declaratively pursuing energy transition, yet having no officially agreed-on coal phase-out date;²⁷ others, like Bosnia and Herzegovina, Bulgaria and Kosovo, have barely started discussing it at the political level and can reasonably be said to be in denial of the ongoing changes.

As a consequence, another thing all the countries have in common is a lack of plans for mitigating the social consequences of energy transition, namely the winding down of lignite mining or oil and gas extraction and enabling the affected communities to start new economic activities. Some countries are even planning to launch new oil and gas production sites, including Bosnia and Herzegovina, Croatia, Albania, Romania and potentially Montenegro.

Energy efficiency is not being prioritised to anywhere near the extent needed and instead of being 'the first fuel', it is still treated as a side-salad in most of the countries. Poor quality building retrofits are also a problem, with many consisting of 'gluing Styrofoam' onto buildings, as one respondent put it.

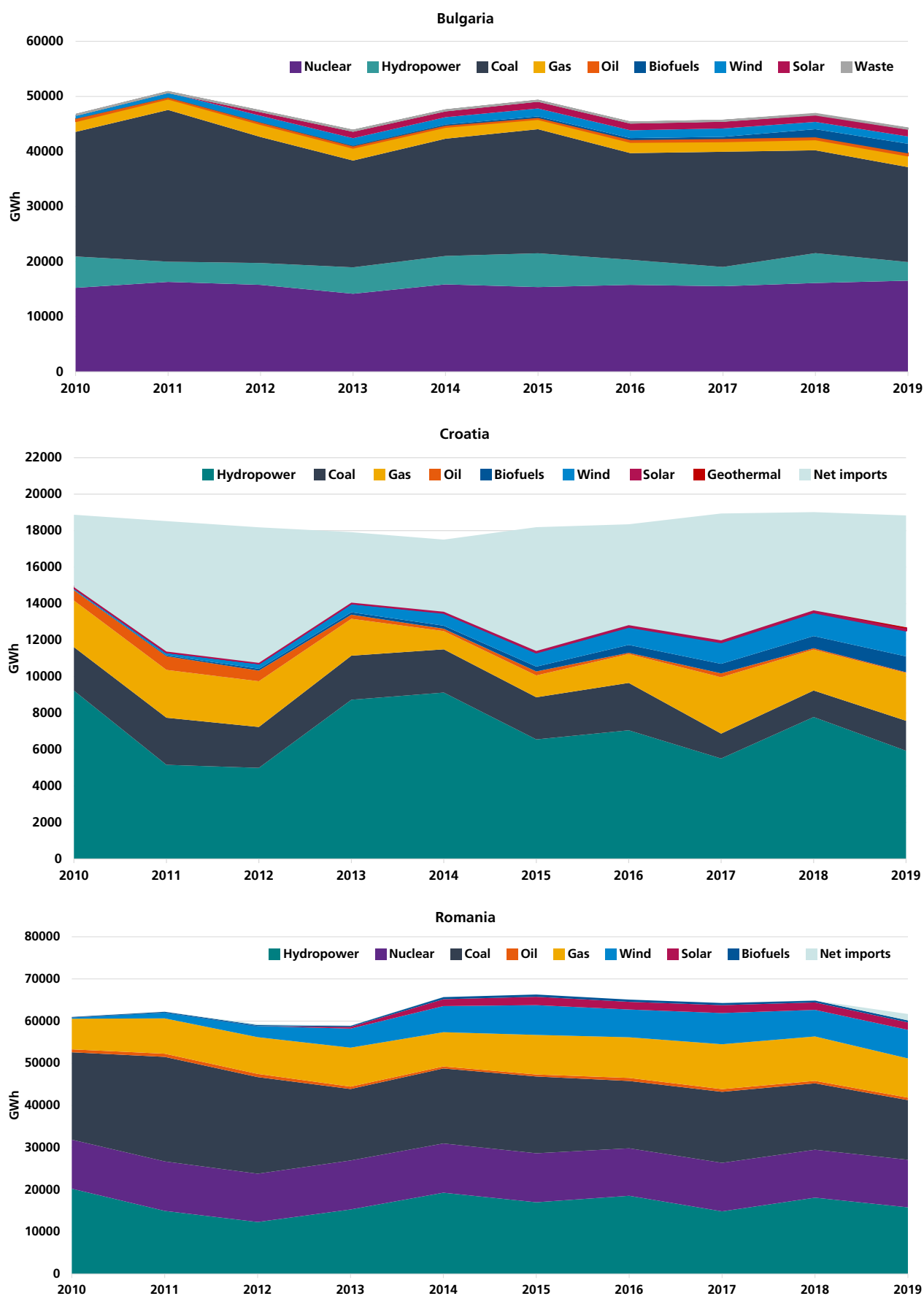
Distribution network losses are still very high in many of the countries, particularly Kosovo and Albania, where technical and commercial losses amount to almost 26 per cent²⁸ and

Figure 1
Electricity generation in the Western Balkans, 2010–2019



Note: 2019 is the latest year available as of May 2021.
Source: IEA Statistics, <https://www.iea.org/data-and-statistics/data-tables?country=BOSNIAHERZ&energy=Electricity&year=2019>

Figure 2
Electricity generation in Bulgaria, Croatia and Romania



Source: IEA Statistics, <https://www.iea.org/data-and-statistics/data-tables?country=BULGARIA&energy=Electricity&year=2019>



22 per cent²⁹ respectively. In other words, around a quarter of electricity is ‘disappearing’, either being used without being paid for, or being lost due to technical problems in the network.

To the extent that a transition is happening, it is largely limited to the power sector. Our interview respondents were almost unanimous in underlining the lack of preparation for a sustainable transition in the heating/cooling and transport sectors.

WHY IS AN ENERGY TRANSITION NOT BEING CARRIED OUT FAST ENOUGH IN SEE, AND WHAT ARE THE PRINCIPAL REASONS BEHIND THE INACTION AND MIS-STEPS?

In order to examine why the energy transition is not happening faster in the region, we examined several assumptions based on our experience and asked our interview respondents to comment on the relative importance of each one. In addition, respondents were invited to mention any other factors hindering the transition. Many of these overlap or are mutually reinforcing. For example, when poor investment decisions are taken, it is not always clear whether it is mainly a matter of outdated thinking, lack of capacity to properly assess the implications, or corruption, or all of these. Or when environmental or State aid law is not enforced, is it due to lack of knowledge or capacity of the institutions responsible, or state capture, or both? We have therefore clustered the factors below, but with a clear understanding that other ways of organising them could have been equally valid.

Apart from the factors our respondents found most important, some issues were not seen as crucial in most cases, so rather than discussing them in detail, we mention them in the Conclusions section, below.

State capture, geopolitics, and lack of rule of law and accountability

LACK OF TRANSPARENCY, RULE OF LAW AND ACCOUNTABILITY OF DECISION MAKERS

Irrespective of the level of transition in the countries, all of them suffer from a lack of transparency on how decisions regarding the energy sector are taken, particularly regarding large new infrastructure projects. Some even lack basic transparency about decisions already taken, as evidenced by the fact that in Albania³⁰ and the Federation of Bosnia and Herzegovina³¹ there is no complete public list of all hydropower plants whose construction has been approved.

Public consultation in energy policy development is usually carried out as a formality, with no real impact on the process,³² and in most of the countries real parliamentary scrutiny is lacking. Sometimes national energy strategies are so broad that they include every possible project, such as in

Bosnia and Herzegovina or Serbia,³³ while in other cases the projects which are built in the end are not the ones prioritised in the strategies. Sometimes this is for the best, because it prevents long-term fossil fuel lock-in, as in the case of Montenegro’s Pljevlja II and Kosovo’s Kosova e Re being cancelled. But it is also a sign of unrealistic planning.

Air pollution from a combination of power plants, industry, heating and transport chokes cities across the region, with very little improvement from year to year, and in many cases it is not even measured accurately. Breaches of air quality and industrial pollution legislation are a daily occurrence, yet no-one is held accountable.³⁴

When NGOs, journalists, experts or opposition politicians raise issues with proposed projects, governments rarely answer with evidence or additional information, but either stay quiet or repeat the same few arguments over and over again. This reflects a much wider problem of a lack of democratic scrutiny of decisions taken and especially of accountability for those decisions.

Across the region, decision makers rarely face serious consequences for decisions that damage the state in the energy sector. The jailing of former Croatian Prime Minister Ivo Sanader for accepting a bribe during the sale of oil company INA to Hungary’s MOL³⁵ stands out as one of the very rare examples to date.

Access to justice is also a serious problem in the countries, as courts lack both independence and expertise in environmental law, which is often one of the main areas challenged. In a series of cases in Bosnia and Herzegovina, complaints by an NGO regarding projects in Tuzla were dismissed by the court on the spurious grounds that the organisation was registered in Sarajevo and not Tuzla.³⁶ In the Valbona hydropower case in Albania, local people alleged that signatures had been forged in the minutes of a public consultation that never took place. The court-appointed officer charged with investigating the issue of the signatures was a son of the engineer in charge of the hydropower construction.³⁷

None of these issues are unique to the energy sector, and they need to be addressed across the board. But below, we take a look at some of the ways specific influences manifest in this sector.

INCUMBENT UTILITIES AND THE STATE – A SYMBIOTIC RELATIONSHIP

All of the countries analysed have large state-owned³⁸ incumbent utilities which play a major role in their energy sectors. They are highly politically influential and at the same time politically influenced: their leadership is usually directly appointed by governments, while lower level staff are also often employed along political lines or to score political points before elections. Perhaps the most omnipresent of these is the Bulgarian Energy Holding (BEH), which

not only owns Bulgaria's nuclear power plant, the Maritza Iztok 2 coal plant, Maritza mines and Bulgaria's large hydropower plants, but also its gas supplier and electricity and gas transmission operators. For this reason, our respondents characterised it as a 'mega-corporation' that prevents real change from taking place.

Serbia's Elektroprivreda Srbije (EPS) also stands out as a particularly dominant utility, owning all the country's coal and large hydropower plants, and most of its coal mines. It appears to be able to do largely what it likes, and permitting processes for new EPS facilities have either been carved up into so many pieces as to become meaningless (e.g. the building permits for the Kostolac B3 coal power plant resulting in the chimney being almost finished before the main boiler building even had a permit) or have been done back to front (e.g. construction starting before the environmental impact assessment process was completed for the desulphurisation unit at the existing Kostolac B plant).³⁹

Both BEH and EPS have proven resistant to attempts at reform, as explained in the country analyses. The reasons for this would merit additional research in themselves, but one problem is that too many people are doing well out of the existing situation – those who work in the companies, those who get contracts to carry out external works for them, and the respective governments who count on the political support of the companies' employees. Thus, governments get stuck in a cycle of supporting the incumbent companies' plans and they fail to send the message that business as usual is no longer an option.

What is interesting is that some of the countries with highly dominant utilities have nevertheless advanced further with their energy transitions. In the case of Croatia and Montenegro, the development of wind power was started by private companies, with their state-owned utilities starting to take an interest in wind and solar only later, while in North Macedonia, it was the state-owned utility ELEM (now Elektrani na Severna Makedonija (ESM)) that undertook the country's first wind project.

What these three countries have in common is that they have all had to accept that they cannot build new coal power plants – Croatia due to EU State aid rules (Plomin C), Montenegro due to lack of financing (Pljevlja II) and North Macedonia most likely due to lack of viable coal reserves. This fact, combined with price decreases and positive experiences with wind projects, together with other advantageous factors such as Croatia's lack of coal reserves and Montenegro not being connected to international gas networks, has helped steer their utilities towards increased acceptance of the transition compared to other countries in the region.

Despite the progress, all of these utilities are still dragging their feet regarding a coal phase-out,⁴⁰ and they are still very attached to climate-vulnerable large hydropower. But they are at least acknowledging that the future is renewable and are undertaking solar and wind investments.

In other cases, such as Romania, the incumbent utilities such as Oltenia Energy Complex are still very much resisting energy transition, but they claim a lower share of the energy mix, and significant progress has been made in bringing renewable energy online by actors other than these companies.

GEOPOLITICAL ISSUES

One of the differences between the countries analysed is their foreign policy orientation. Those which are more strongly EU-oriented, such as Croatia, Montenegro, North Macedonia and Albania, are generally more accepting of energy transition, although implementation needs to be improved, and the EU's promotion of gas in southeast Europe⁴¹ threatens to be a costly and climate-damaging distraction (see the 'False solutions' section below).

Kosovo's contract with ContourGlobal for the Kosovo e Re coal plant, which dominated its energy agenda for a decade, and was clearly a consequence of both domestic support for coal and US zeal in developing the project, was only cancelled in 2020, and it is unclear what direction the country will now take.

Romania's once-flourishing cooperation with China has been flagging in recent years⁴² and has seen the Rovinari coal project cancelled⁴³ and negotiations on the Cernavodă nuclear plant abandoned.⁴⁴

Bulgaria's long-term energy sector cooperation with Russia has been based mainly on gas, oil and nuclear. Even while purportedly diversifying its gas supply, Bulgaria has recently put most effort into the Turkstream pipeline, which still brings Russian gas, and has raised suspicions due to its high per-kilometre cost compared to similar projects, as well as the lack of evidence for its feasibility.⁴⁵

Serbia's increasingly strong relations with Russia and China are closely linked to their support for Serbia with regard to Kosovo. Both Russia and China have clear commercial interests in Serbia's energy sector, but Russia's are more clearly linked to a specific sector – gas. In the energy sector, China has so far mostly been associated with coal power plants,⁴⁶ but it is equally able to offer other technologies as well, also being a world leader in solar and wind power.

Thus in Serbia, as well as Bosnia and Herzegovina where it is also active, China seems to be an enabler of new coal power plants rather than a strong driver, but Serbia's dependence on it for political support over Kosovo means it is particularly susceptible to accepting whatever China suggests.

One example is the unfavourable terms for the Kostolac B3 coal power plant, for which a deal was signed with the China Machinery Engineering Corporation (CMEC) in 2010. No tender procedure took place. Instead, the Chinese and Serbian governments signed an intergovernmental agreement freeing joint projects from tender obligations⁴⁷ – a move which would not be allowed under EU law.



A USD 608 million loan contract was signed with China Eximbank in December 2014.⁴⁸ In early 2015 it was ratified by the Serbian parliament in an extraordinary session announced to the public less than 24 hours in advance. The contract contains several problematic provisions, e.g. any arbitration will take place in Beijing.⁴⁹

Lack of transparency and scrutiny of decision-making on geopolitically influenced energy investments in southeast Europe are part of a wider issue, and will ultimately remain a problem no matter which global power is involved. As such, they need to be tackled across the board, not only in relation to Chinese or Russian projects. On the other hand, the example of Romania shows that the situation can quickly change – at least with regard to China, as a relative newcomer to the region which needs to prove itself.

RULE OF LAW AND THE PRIVATE SECTOR

One of the ways to speed up energy transition where incumbent utilities are dragging their feet is to introduce different private-sector actors and diversify the energy sector. However, without strong rule of law, this risks backfiring, as corruption goes far beyond the state-owned utilities and shady geopolitically-influenced deals. This represents a major threat to the energy transition because it also tarnishes the renewable energy sector, discourages legitimate investors and harms public acceptance of the whole policy.

The most obvious example of this is the small hydropower boom, which has affected all nine countries analysed, although to varying extents. In some countries close links between those profiting from feed-in tariffs and the ruling parties have been clearly demonstrated by NGOs and investigative journalists,⁵⁰ and the whole model of businesses being able to have all their electricity bought off at a fixed price higher than the market price is seen as a scam rather than a legitimate incentive scheme, particularly given the level of destruction wrought on the region's rivers and streams.

Slowly, countries are switching over from feed-in tariffs to auction-based schemes,⁵¹ but new controversies keep appearing. From the Krš-Padene wind farm in Croatia⁵² and the Možura wind farm in Montenegro⁵³ to solar plants in Kosovo,⁵⁴ scandals are gradually hitting every energy sub-sector. On one hand this is a sign that new energy sources are making inroads into the energy system, but on the other it threatens to derail the transition.

Outdated view of the energy system, false solutions and lack of understanding of the speed of change

The need for an energy transition has mainly been driven by the increasingly urgent need to tackle climate change, which means the solutions proposed must be fully in line

with the Paris Agreement's goal of limiting climate change to 1.5 degrees Celsius compared to pre-industrial levels. However, in tackling one problem, we need to avoid creating other significant problems such as biodiversity loss or the generation of toxic or radioactive waste.

We also need to take advantage of opportunities for a highly decentralised network system, in which power is generated at the location where it is consumed and households participate in the energy system as both producers and consumers.

Yet across southeast Europe, governments and utilities are promoting energy policies that either fail to move away from fossil fuels at all, or they propose alternatives which bring other problems. Sometimes it is reasonably obvious that this is a result of the issues explored above – state capture and corruption – but the situation is more complex than that, as it is also a question of outdated thinking. Many decision makers in the region, as well as some energy experts, have not kept up with the rapid pace of change in the energy sector in the last 15 years, and continue to insist on a high-production, high-consumption energy model, with aspirations of becoming 'regional energy hubs' or net exporters.

Instead of tapping their countries' energy efficiency potential, they plan for increases in consumption far into the future, and persist in a belief that the bulk of electricity has to be generated by 'base load plants' in the form of coal, gas, nuclear or biomass power plants.⁵⁵ They often have exaggerated fears about the negative impacts of intermittent sources on the grid and do not accept that a network of intermittent sources balanced by different storage methods can 'keep the lights on.'

OLD THINKING, OLD PROJECTS

Many planned projects have been around for decades and are periodically dusted off and pushed forward for a few years. These include the Gornji Horizonti and Upper Drina dam complexes in Bosnia and Herzegovina, planned since at least the 1950s⁵⁶ and 1970s⁵⁷ respectively; a series of dams on the Vardar river in North Macedonia, planned since the 1950s;⁵⁸ and the Skavica dam in Albania, planned since the 1970s.⁵⁹ The Kolubara B coal plant in Serbia is another example, with construction starting in the 1980s and the project being revived several times since then, before being cancelled again in May 2021.⁶⁰

Such projects are often declared to be of 'public interest' by decision makers⁶¹ on the basis of unclear criteria, which then results in them being carried forward from strategy to strategy to strategy, irrespective of their real relevance in today's circumstances. Their re-appearance is usually not accompanied by a comprehensive update of their real feasibility, and other circumstances, such as hydrological data or their sites' nature protection status may have changed considerably in the meantime.



FALSE SOLUTIONS AND LACK OF UNDERSTANDING OF THE SPEED OF CHANGE

A phenomenon common to all the countries is false solutions, meaning that immense time and money is often wasted, and better solutions neglected, because decision makers single-mindedly pursue a certain energy option which in fact is not the most suitable solution.

These can range from new coal plants, like the Pljevlja II and Kosova e Re plants in Montenegro and Kosovo respectively, which for years sidelined the development of other sources of energy, to small hydropower, which has been subsidised via renewable energy incentives for years but has generated more controversy than electricity. In 2018, in the WB6, small hydropower received 70 per cent of renewable energy incentives but generated just 3.6 per cent of total electricity.⁶²

False solutions present a kind of chicken-and-egg situation, as they are mainly a result of other factors explored below, such as corruption or outdated thinking, or both. But in some cases, certain projects or the development of certain sectors are so predominant in government or utility plans that they become a sizable barrier to transition by themselves, as was the case with Kosova e Re and Pljevlja II.

Serbia and Bosnia and Herzegovina's plans for several new coal power plants each⁶³ are now an anomaly in the region, but as mentioned above, all the countries are dragging their feet on stipulating a clear coal phase-out date or clear plans for withdrawal from other fossil fuels. In our analysis, this represents a lack of awareness about the speed of the change that is going on.

Given the fact, mentioned above, that coal power generation in the EU has halved since 2015, what is it exactly that makes any of these countries think they are so different and can avoid the economic forces that led to this situation? Greece's announcement of a 2028 coal phase-out while in the middle of building a new coal plant and its later revision to 2025 should be a clear sign that the times are radically changing, but many governments and utilities are either not listening or not willing to admit it.

Moreover, even when they do think about alternatives to coal, many decision makers are still stuck in a mindset of options that are as similar as possible to the existing system, whether concentrating on gas, hydropower, nuclear, biomass or even municipal waste.

GAS

In our analysis, gas is the number one false solution currently threatening southeast Europe. This might be surprising as there has certainly been more public controversy around hydropower in recent years. However this is precisely the issue: gas is being expanded across the region with very little public debate or awareness about whether this is a good idea and what the alternatives might be.

Gas can no longer act as a 'transition fuel'. Already in 2016 Oil Change International calculated that no more fossil fuel infrastructure can be built if we are to meet the goals of the Paris Agreement. The potential carbon emissions from the oil, gas, and coal in the world's operating fields and mines would already take us beyond 2 degrees Celsius of warming, and even excluding coal, the reserves in currently operating oil and gas fields would take us beyond 1.5 degrees Celsius.⁶⁴ Even the 2018 World Energy Outlook by the very conservative International Energy Agency came with a clear warning: 'We have no room to build anything that emits CO₂ emissions'.⁶⁵

Yet some countries – Croatia, Bulgaria, North Macedonia, Romania and Serbia – have already made significant investments in the gas sector and are planning to make more. Romania, for example, is promising to connect every household to the gas network free of charge⁶⁶ – a policy whose massive cost does not seem to have been carefully considered, and its Oltenia Energy Complex is planning to replace some of its lignite power units with gas ones.⁶⁷ Some of the countries are also planning to start or expand oil and gas production, including Romania, Croatia, Montenegro and Albania.

Several countries in southeast Europe have not been major users of gas because they are either not connected to international networks (Montenegro, Kosovo, Albania⁶⁸), or only some parts of them are connected (Croatia, Bosnia and Herzegovina, North Macedonia). In these cases, new investments in gas infrastructure would be particularly destructive. Funds would have to be invested in major infrastructure which would either become stranded assets after a few years or would lock in the use of gas for decades to come.

It is therefore of great concern that even while the President of the European Investment Bank, Werner Hoyer, is proclaiming that 'Gas is over',⁶⁹ the European Commission is still promoting the construction of new gas infrastructure in the region, for example through the Projects of Energy Community Interest (PECIs) process,⁷⁰ the October 2020 Western Balkans Economic and Investment Plan,⁷¹ and even the Green Agenda for the Western Balkans.⁷²

Unfortunately, the picture is also being muddled by claims that such infrastructure can be used in the future for renewable gas, which we consider highly unrealistic, as there is not likely to be such a quantity of sustainably produced renewable gas available within a relevant timeframe.^{73, 74} The much more likely scenario is that gas infrastructure will create more fossil fuel lock-in.

OTHER FALSE OR OVERRATED SOLUTIONS

Hydropower's impacts on rivers, especially in sensitive areas, are of particular concern in the countries of the Western Balkans, which are biodiversity hotspots but do not apply the EU Habitats, Birds and Water Framework Directives.⁷⁵ Hydropower plants under 10 megawatts have at-

tracted most criticism in recent years due to the negligible amount of energy generated compared to their serious environmental impacts, but larger plants such as those on the Vjosa⁷⁶ and Upper Drina⁷⁷ are just as controversial. Given hydropower's climate vulnerability, there is most likely little added value for countries such as Albania, Croatia, Montenegro and even Bosnia and Herzegovina to add more hydropower capacity to their mixes.

Biomass is a widely used fuel for heating in the region, but it can easily lead to degradation of forests if not carefully managed. Its greenhouse gas impacts are also attracting increased scrutiny, as it does not have to pay for its emissions under the EU emissions trading scheme, despite the fact that replacement of trees being burnt now will take place far too late to tackle climate change.⁷⁸ It will certainly continue to be used for some time but it is often seen as the only means to increase renewable household heating, whereas other options like heat pumps are usually neglected.

Waste incineration is primarily aimed at reducing municipal waste rather than being a serious energy alternative, but is nevertheless sometimes promoted as a source of district heating, as in Belgrade, Serbia.⁷⁹ As well as concerns about its health impacts, particularly in countries with a poor record of pollution control enforcement, it tends to crowd out waste prevention and recycling by locking local authorities into long-term contracts to deliver fixed waste volumes. Some Bulgarian coal plants such as Bobov Dol have tried burning waste, which proved highly unpopular and the plant was forced to stop this practice in 2020.⁸⁰

Nuclear power is relevant mainly for Bulgaria, Romania and Croatia, with the former two countries trying unsuccessfully for years to build new units. With a range of unsolved problems such as radioactive waste, massive costs, safety and security issues, it is also ill-suited to the flexible energy system currently being developed across Europe.

Incomplete transposition and implementation of EU rules affecting the energy sector

As well as Bulgaria, Romania and Croatia being EU members, the other countries analysed have obligations to apply selected EU energy and environmental legislation, as well as its State aid rules due to their membership of the Energy Community Treaty.

They are also all aspiring EU members, and so need to apply EU legislation as part of the accession process. Chapters 15 (Energy), 27 (Environment) and 8 (Competition policy) of the EU acquis are particularly relevant for energy transition.⁸¹

There are serious implementation issues in all of the countries, but there are nevertheless different trends.

Croatia does enough to get by with regard to transposing EU law but is lacklustre in implementation – for example, in

May 2020 the European Commission sent a letter of formal notice to Croatia for failure to properly apply the Habitats Directive with regard to wind projects.⁸² Bulgaria and Romania also clearly have to transpose the law but are more flagrant in their breaches. For example, the European Commission opened two infringement cases against Romania for breaching the Industrial Emissions Directive multiple years in a row.⁸³ Bulgaria was already found non-compliant on air quality by the European Court of Justice in 2017 and is currently facing a second court case for failure to take corrective action.⁸⁴ Earlier in 2021 NGOs also submitted a complaint to the European Commission over Bulgaria allowing coal plants to emit more sulphur dioxide than legally allowed.⁸⁵

However, while these breaches certainly delay energy transition, a move away from carbon intensive energy generation in EU countries is certainly happening, and it is happening fast. Industrial emissions rules drive up the cost of running coal plants by making polluters pay for pollution control equipment, and in recent years the EU's emission trading scheme has dramatically increased the cost of operating fossil fuel plants.

For example, in April 2021 it was reported that if the CO₂ price remained at the same level, the Šoštanj coal power plant in Slovenia would lose EUR 150 million this year alone,⁸⁶ and the same trends are presumably behind Hungary and Greece's ever-closer coal phase-out dates. This is also why, although Bulgaria has not publicly discussed any coal phase-out date, in reality, its level of coal use in 2019 was already down to 17,225 GWh – a level not expected in the country's NECP until 2029/2030.⁸⁷

The Energy Community countries are experiencing the same kind of trends but at a delayed pace. Montenegro is often seen as among the more advanced countries.⁸⁸ Our experience suggests that this may be due to the fact that other countries in the region have done particularly poorly in even transposing legislation in recent years, most notably environmental legislation, let alone implementing it, while Montenegro has at least continued with transposition.⁸⁹

What distinguishes the EU SEE countries from the non-EU SEE countries is that the European Court of Justice can impose sizeable penalties for failure to apply EU rules. The Energy Community cannot. It can declare non-compliance, exclude a country's representatives from decision-making, and in extreme cases it has asked the European public banks not to invest in a country's energy sector for a certain period, which makes enforcement much harder.

As a result, all of the five Western Balkan countries with coal plants are clearly breaching the Large Combustion Plants Directive on industrial pollution – Montenegro by failing to close the Pljevlja plant after its allotted operating hours expired,⁹⁰ and the other four by exceeding the total allowed sulphur dioxide emissions by no less than six times.⁹¹

State aid is another issue, as the Energy Community countries are subject to EU State aid rules, but the coal industries are dependent on subsidies and stopping them is politically difficult. In recent years, Serbia and Bosnia and Herzegovina have provided the highest subsidies in the Western Balkans for the coal sector.⁹²

A major difference between the EU and non-EU countries in the region, however, is that carbon pricing is not yet obligatory in the Energy Community countries. It is only a matter of time, though, particularly considering that the EU is looking at introducing a carbon border adjustment mechanism for countries that do not internalise the external costs of greenhouse gas emissions.⁹³ The details of this mechanism are as yet unclear but proposals are expected in 2021.⁹⁴ For example, it is not clear whether it includes the electricity sector, but given that the Western Balkans are currently trading electricity with the EU without applying either carbon pricing or complying with pollution control rules, this sector is an obvious candidate.

Still, this process will have to be carefully monitored. Although Montenegro received widespread praise for being the first Western Balkan country to introduce CO₂ pricing, in April 2021 a scandal erupted as it was discovered that the mechanism had been designed – possibly deliberately – in a way which benefited the ailing Podgorica aluminium factory by providing it with surplus credits that were then bought by Elektroprivreda Crne Gore.⁹⁵

Lack of political courage to tackle mine closure and just transition

Lignite mines in southeast Europe employ thousands of people – and in several cases they are desperately inefficient. On one hand political parties need the votes of those from coal mining communities, and on the other, there is real pressure on politicians from coal companies and trade unions. The result is that most of the countries are buffeted around between economic reality and internal pressure, and fail to take control of the transition process. Some, like Montenegro and North Macedonia, are accepting of the energy transition overall but have failed to plan the social aspects, while others are to varying extents in denial about the transition more broadly.

Some governments not only fail to lead the transition, but also keep making rash promises that new coal plants will preserve their jobs. In 2018, Bankwatch found⁹⁶ that coal proponents had overall claimed that 10,030 jobs would be maintained and 17,600 new jobs created if new coal plants were built, but that even if they went ahead, a reduction of workplaces by around 5,170 would be more likely, due to pre-existing overemployment in the mines.

While some of these promises have already evaporated with e.g. the cancellation of the Kosova e Re and Pljevlja II plants, in other places unrealistic pledges about the future of coal remains an issue. As recently as May 2020, a few

weeks before parliamentary elections, Serbia's President Vučić visited the Kolubara region and claimed that EUR 500 million would be invested in the mine in the coming years, that the mine would supply coal for the next sixty years and that there would be no layoffs or pay cuts.⁹⁷ With irresponsible and unrealistic messages such as these, it will be extremely hard to make progress in developing a realistic plan for a just transition for the coal mining regions.

However, the issue is not uniform across the region. Mining unions are not perceived as powerful actors, e.g. in Montenegro or Kosovo, though this might also be partly because they do not yet perceive an immediate danger to their jobs. While Croatia and Albania do not have coal mining industries, their hydrocarbon industries will also need a just transition.

So far governments have been largely afraid to tackle the issue of just transition, though with the availability of EU funds for this purpose, Romania and to a lesser extent Bulgaria are gradually starting. With the launch of the EU's Platform Initiative in Support of Coal Regions in Transition in the Western Balkans and Ukraine, it is high time for the other SEE countries to join in as well and admit that the coal mines across the region will gradually be closed, and that this needs to be planned in a just and participatory manner. This transition can be a threat to coal mining communities, but it can also be an opportunity for democratic development of the societies, including through grassroots organisations, political parties, and independent trade unions as platforms and avenues for change.

Lack of political will to open markets, cooperate and realise regional synergies

Given the relatively small size of the countries examined, moving towards a decentralised energy system based largely on variable renewables depends greatly on the flexibility of the system and the ability to quickly move electricity from one place to another across borders. This makes it imperative for the countries to cooperate across borders and open their energy markets, as it can reduce overall peak demand across the region and decrease the need for new generation investments.⁹⁸

Most governments in the region have, however, tended to plan their energy sectors very much isolated from one another. A few years ago it was fashionable to want to be an 'energy hub' with significant energy exports, and most of the countries pursued this goal without considering the overall impact on the regional level if everyone did the same thing.⁹⁹ This trend has to some extent subsided now as most of the planned generation capacity has not been built and governments are starting to realise that the end of coal is coming, but most of the countries still consider at least complete self-sufficiency a must, with Bulgaria and Bosnia and Herzegovina still aiming to keep exporting.



There are some exceptions to this country-level thinking, and there are some market coupling plans underway, including North Macedonia-Bulgaria, Albania-Kosovo, Albania-Bulgaria-North Macedonia, Bulgaria-Croatia-Serbia, and Hungary-Serbia, but none of them have been completed yet.¹⁰⁰ The ongoing Horizon 2020-funded project CROSSBOW¹⁰¹ is also working on fostering cross-border cooperation among the system operators in southeast Europe in the management of variable renewable energies and storage units, enabling a higher penetration of clean energies whilst reducing network operational costs.

Some of our respondents also noted that governments' willingness to cooperate is quite selective. While they drag their feet on opening markets and conducting transboundary environmental impact assessments, for example, they usually appear to cooperate rather well on driving forward controversial projects such as the Turkstream gas pipeline or Krk liquefied natural gas (LNG) terminal.

As well as an overall lack of enthusiasm by most of the governments and the domination of national-level thinking, there is the specific issue of electricity prices which is causing problems in opening electricity markets in the region. Household prices are regulated to be much lower than the real cost of generating and supplying in most of the Western Balkan countries except Montenegro,¹⁰² as well as in Bulgaria,¹⁰³ which causes financial problems for utilities and hinders investments. The average electricity price for household consumers in the Energy Community countries excluding Ukraine¹⁰⁴ was 7.66 euro cents/kWh in 2019. This is 2.8 times less than the average EU electricity price for households in 2019. Of these countries, household electricity prices were the highest in Montenegro, at 10.32 euro cents/kWh.¹⁰⁵ Within the EU, Bulgaria had the lowest household electricity price in 2019 at 9.8 euro cents/kWh.¹⁰⁶

Electricity price increases are an extremely politically sensitive issue, not only because people have low incomes, but also because electricity is often used in an inefficient way for space heating, so although the per-unit price is low, many people's bills are already unbearably high.

Energy poverty therefore appears to be widespread across southeast Europe, but little information is publicly available, particularly on the Western Balkans. In Bulgaria, in 2018, 33.7 per cent of people reported that they were unable to keep their homes adequately warm, compared to an EU average of 7.3 per cent, and 30.1 per cent of the population was unable to pay their utility bills on time due to financial difficulties, compared to the EU average of 6.6 per cent. This is significantly higher than in Romania, where 9.6 per cent were unable to keep their homes warm and 14.4 per cent were unable to pay utility bills on time, or Croatia, where the percentage of people unable to keep their homes warm is near to the EU average and 17.5 per cent were unable to pay utility bills on time in 2018.¹⁰⁷

We assess deregulation of household electricity prices and measures to tackle energy poverty as a key problem that

several governments in the region shy away from, partly because there have already been protests in some countries when electricity price rises were announced. It is true that the issue is complex, because on one hand electricity prices need to increase, while on the other the impacts on consumers – particularly vulnerable ones – need to be mitigated, and this means insulation of buildings, installation of heat pumps instead of electrical resistance heaters and other measures which cannot be done overnight. On the other hand, this is all the more reason to ramp up action now, instead of further postponing. Also, electricity prices for consumers are made up of different elements, including network costs, value added tax, support for renewable energy and so on,¹⁰⁸ so there may be other adjustments that can be made in order to keep overall consumer costs down.

Political instability and lack of institutional capacity

Although not one of the main issues we originally assumed to be a major barrier to transition, during the research we repeatedly encountered problems with assessing the current situation in countries due to rapid changes in the political situation.

As if COVID-19 was not enough for the governments to cope with during 2020, five of the countries¹⁰⁹ held parliamentary elections during the year, one held local elections,¹¹⁰ and three have held parliamentary elections during the first four months of 2021.¹¹¹ Kosovo changed governments three times between late 2019 and early 2021, in Montenegro the government changed after 30 years, and Serbia has held either presidential or parliamentary elections in 2016, 2017, 2020 and plans to do so yet again in 2022.

At the very least, for several months before elections governments are focused on the campaigns and carefully avoid any moves that might be detrimental to their success, and the formation of governments often takes several months – or years, in the current case of the Federation of Bosnia and Herzegovina.¹¹² Given the tendency to appoint personnel along political party lines, both in ministries and in public companies, this can also result in long delays while the new people get up to speed with the work, and it is far from guaranteed that the most politically favoured candidates are the best ones for the job.

Even aside from elections, several of our respondents commented that there is a shortage of sufficiently knowledgeable people working on the energy transition in the institutions on the national and local levels. Often, there is expertise available, but there are too few qualified people employed, or their advice is overruled by political decisions, while in some fields (e.g. decentralisation, prosumers) there is an overall lack of experience because many aspects of the energy transition are completely new. Even where technical knowledge is available, there are not always enough people with sufficient management skills. This often ends up with

donor-financed consultants working on what should be key strategy documents, resulting in a situation where the plans are not really adjusted to the countries' situations and there is no real ownership or management of their implementation – a situation that was particularly underlined as an issue in Bosnia and Herzegovina and Kosovo.

Conclusions and recommendations: what would need to happen for a sustainable energy transition to take place in SEE?

Many of the issues discussed above are wider issues of democratic development, governance, public and parliamentary scrutiny of decisions being taken, and a functional justice system, which are much wider than the energy sector and require further sustained efforts by all actors – domestic and international – to improve the situation in the countries. Decision makers need to know that they will be held accountable for their actions, and this is currently too often not the case.

There are some signs of the public demanding change in some of the countries, notably in the Montenegro and Kosovo elections, and to a smaller extent in Bulgaria and Croatia. Failure to turn electoral victory into effective leadership is also a major issue, with new governments not always having the interest, experience, expertise or integrity to move forward at the pace expected by the public, which can quickly lead to disillusionment. This in turn can lead to further instability and/or a return to power by the previous ruling party if people do not see an alternative. Thus there is no doubt that it is crucial to keep working on governance improvements in the countries, each from their own angle. Grassroots organisations, NGOs, political parties, and independent trade unions can all be platforms and avenues for change here.

Discussions are also currently underway on introducing penalties in the Energy Community Treaty, and provided the penalties are sufficiently high to be dissuasive and the process for imposing them sufficiently timely, this could help significantly. Improved State aid approval procedures and additional climate provisions are also needed within the Treaty.

In all of the countries, more public discussion and more leadership is needed regarding energy transition. For example, Croatia overall accepts the idea of energy transition, notwithstanding its plans to continue relying on gas for some time, but it does not seize the idea and use it to its advantage or make it part of the country's brand. In Serbia and Bulgaria, on the other hand, entrenched interests present the transition as an expensive EU-imposed exercise that will benefit foreign companies and put people out of jobs.

Governments therefore need to seize the initiative and, in consultation with experts, local authorities and other members of the interested public, better plan how to make a sustainable energy transition work for their country, seizing opportunities for the domestic economy such as energy effi-

ciency, digitalisation and renewables installation, while mitigating potential negative impacts from coal mine closures and price increases due to market opening. In particular, all countries use energy wastefully and most have high electricity distribution network losses. Addressing these could bring down demand significantly.

While the countries' directions should ultimately be decided domestically, it is clear that institutions like the European Commission, the Energy Community and international donors including USAID, KfW, the EBRD, the EIB, Sida, the UK Foreign Office and GIZ have a strong ability to move energy transition along. But if this assistance is to be effective, it has to be less based on engaging consultants to produce strategic documents and has to build understanding of, and compliance with, EU policies and law, capacity and dialogue on the domestic level – not by one-off training workshops, but consistently and over time. Some institutions are making this effort, and it is not easy – staff turnover and political decisions based on special interests can easily undermine whatever expertise is built – but without this, the steps forward will continue to be insufficient.

A further aspect is that any strategies produced with donor assistance need to be coherent and compliant with EU law and policies,¹¹³ to avoid sending mixed messages and wasting donor funds. While it is understandable that international bodies want to encourage the governments in their efforts, uncritical praise for developments like the adoption of strategic documents that are not in line with EU policy undermines the work being done by civil society.

In parallel to developing their leadership on energy transition, governments need to firmly commit to stop new fossil fuel investments, in order to avoid creating new path dependencies related to sunk costs and contractual obligations in fossil fuel infrastructure. So far we do not assess sunk costs as a major issue region-wide, but it can quickly become one, particularly with regard to gas infrastructure. So far, the issue of contractual obligations mostly applies to Serbia, where the new Kostolac B3 coal plant is under construction, and Bosnia and Herzegovina, where the financing contract for the Tuzla 7 unit has been signed and preliminary works have been carried out.

All the countries have committed via the Green Agenda for the Western Balkans to phase out the use of fossil fuels by 2050 in order to achieve carbon neutral economies, but clearly stated coal phase-out dates are also needed, which even the EU countries analysed do not yet have. This is needed not only for planning how to deal with securing the energy supply but also for planning whether to make investments in pollution control or bring plant closures forward. A rapid coal phase-out is needed, but for those plants which really need to operate for a few more years, pollution control equipment is a must, to diminish public health impacts. In all cases, a solid plan to ensure a just transition away from fossil fuels is needed, and for the coal sector the countries should make use of the respective EU Coal Regions Platforms and associated funding opportunities.



As all of the Western Balkan countries are currently developing NECPs, and the EU countries are likely to have to update theirs due to the EU's 2030 increased ambition, this opportunity needs to be seized as a chance to set a coal phase-out and fossil fuel phase-out date, to initiate plans for a just transition, and to discard outdated plans from previous strategies. False solutions need to be avoided, and NGOs, experts and international institutions need to play a proactive role in providing a reality check on solutions that are not desirable or realistic, as part of a wider public dialogue.

A major need is to tackle incumbent utilities which are resisting the energy transition. Serbia's EPS and Bulgaria's BEH are the most dominant examples, but all of the state-owned companies in the region need reforms and much more public oversight, as they are all pushing outdated projects which do not correspond to today's realities, and under-investing in solar, wind, and distribution grid improvements.

Those countries which have succeeded in installing more wind and solar so far have mostly done it by involving the private sector, which has had a positive effect in showing that it can be done, which has encouraged hesitant utilities like Croatia's HEP or Montenegro's EPCG to have a go themselves. In North Macedonia, the state-owned company ELEM (now ESM) has led on larger solar and wind projects. As there is a high level of public sensitivity in many of the countries to private companies benefiting from investments in the energy sector, it should be assumed that the existing utilities will continue to play a very strong role, and each country will have to deal with their involvement in large renewable projects in the way it finds most appropriate.

Two of the main needs across the board are to decentralise the energy transition, making sure that local governments are empowered to push it forward in their own areas of competence such as energy efficiency, transport and heating, thus ensuring that the energy transition is not solely in the hands of large incumbents, and secondly, to make sure the legislation enables ordinary people and small businesses to become prosumers or energy communities as painlessly as possible.

A final issue common to all the countries is that the energy transition has so far been taking place mainly in the power sector, and much more attention is needed to transport and heating. In transport, rail needs to be brought back into play as an environmentally acceptable, comfortable means of transport. Suggestions on how to do this in Croatia have been put forward by the Institute for Political Ecology,¹¹⁴ and these may also be of use for other countries in the region. For other transport modes, due to the sustainability issues around biofuels,¹¹⁵ efforts need to be put into electrification.

Similarly, with heating the countries need to make much more use of heat pumps and solar thermal where appropriate, rather than relying solely on biomass as the only renewable heat source. The EBRD is doing interesting work

in this respect, helping to develop renewable district heating systems in the region.¹¹⁶ Countries which do not have widespread gas usage or district heating systems such as Albania and Montenegro should take the lead in this field and leapfrog over the gasification phase towards decarbonised heating.

RECOMMENDATIONS FOR NATIONAL GOVERNMENTS¹¹⁷

- Don't avoid or delay the transition, but rather seize the opportunity and find ways to make it work for your country's households and small businesses.
- Step up meaningful action against corruption and nepotism at all levels, and make sure the law is enforced rigorously, including environmental, State aid and energy law.
- Stop all new investments in fossil fuel infrastructure, whether coal, oil or gas.
- Use the NECP or NECP update process to set a clear coal phase-out date and make a plan for phasing out all fossil fuels, as well as ensuring a just transition of coal mining regions.
- Allow the design of a just transition for fossil-fuel-dependent regions to be carried out in a participatory manner and bottom-up, but proactively support the local authorities with this and make sure they have sufficient resources to do so.¹¹⁸
- Make energy efficiency the first fuel, in particular by reducing distribution losses, properly insulating houses, and replacing electrical resistance heaters with efficient heat pumps.
- Go beyond the power sector and improve rail and electrification of transport, as well as transformation of the heating sector.
- Give energy transition a high level of priority in terms of engaging sufficient, qualified, personnel – no matter their political disposition – in the relevant institutions.
- Pro-actively open up public debate about energy transition – not just one-off events, but consistently – and listen to a range of voices including householders, small businesses and local authorities.
- Remove legal barriers for the sustainable development of renewable energy, e.g. for prosumers, solar power, etc. and make sure appropriate incentives are in place. Those countries which have not yet stopped awarding feed-in tariffs for renewable installations larger than 500 kW need to do so urgently, and make sure that incentives are directed towards households and community energy schemes.



- Take ownership of reforms of incumbent utilities and open them up to increased public scrutiny by setting a clear plan with a timetable and explanation of the expected benefits. Involve different experts and bodies in monitoring progress.
- Maintain a dialogue with the utilities to ensure that they do everything possible to advance the integration of prosumers into the grid and speed up work to decrease grid losses.
- Avoid false solutions: Don't just go for solutions you are familiar with, or those which are currently popular at the EU level, but proactively assess whether certain technologies make sense in your country's context at this moment in time.
- Make sure local authorities are supported to play their part in the transition according to their competences – particularly in the buildings, heating and transport sectors.

RECOMMENDATIONS FOR LOCAL AUTHORITIES

- Kick off a discussion at the local level with all relevant actors – including sectoral experts, local businesses, national authorities, NGOs, and international donors – about what can be done to advance the energy transition at the local level within the competences of the local authority, and develop an action plan.
 - For fossil-fuel-dependent regions this needs to be a more comprehensive regional redevelopment plan, developed in a participatory, bottom-up manner, while for other locations this should concentrate particularly on improving energy performance of buildings, public transport and heating, as well as moving towards a circular economy in terms of waste prevention and management.
 - Make use of all available expertise, not just within the institutions, as well as all available international funds. Embassies, international donors like the EBRD, the Energy Community Secretariat and some NGOs should be able to assist in identifying suitable funds.
 - Identify any barriers that need to be addressed at the national level and advocate for their removal. NGOs and other independent experts may be allies in this.
- sure that energy investments will be in line with EU rules, no matter who finances them.
- Compliance with EU law and policies must be a basic condition for all international donor assistance, whether donor-funded development of strategic documents or the development of specific documents.
 - Assistance needs to concentrate more on building domestic planning, management skills, ownership and understanding of EU legislation and less on engaging consultants to produce strategic documents.
 - Be clearer about the need for decarbonisation, not only on coal. Avoid promoting gas, technologies that are not yet available at scale¹¹⁹ or those with high environmental risks,¹²⁰ and encourage the region's authorities to pay more attention to energy efficiency and low-risk technologies. Use funding only for 'no-regrets' investments.
 - Avoid sending mixed messages and undermining the work done by civil society by uncritically praising problematic developments such as the adoption of strategic documents that are not in line with EU policy or which have not been subject to genuine public consultations. Feedback should be well-informed and balanced.
 - Where national authorities do not show sufficient will to advance in energy transition, concentrate on more progressive local authorities. This might include opening the EBRD's Green Cities programme up to smaller towns and cities than is currently the case.
 - Strengthen the Energy Community Treaty by introducing penalties for non-compliance, introducing obligatory notification of State aid and strengthening climate commitments under the Treaty, in line with the EU's 2050 carbon neutrality goal. This would also help to counter investments by actors such as Russia and China that are not in line with EU law.
 - Strengthen the Treaty by continuing efforts to introduce carbon pricing and adding additional environmental legislation to ensure better safeguards for nature and more stringent air pollution and air quality standards. This would also help to counter investments by non-EU actors that are not in line with EU law.
 - Include the electricity sector in the planned EU carbon border adjustment mechanism.

RECOMMENDATIONS FOR THE EUROPEAN COMMISSION, INTERNATIONAL DONORS AND THE ENERGY COMMUNITY

- Step up the work to ensure transposition and enforcement of EU energy, State aid and environmental legislation in southeast Europe. This is the only way to en-

RECOMMENDATIONS FOR INDEPENDENT EXPERTS, NGOS, JOURNALISTS AND OTHER PUBLIC FIGURES SUCH AS OPPOSITION POLITICAL PARTY REPRESENTATIVES AND OPINION-FORMERS

- Independent experts and NGOs need to proactively speak up and let governments know what needs to be done and not to be done, and to inform the government and public about the strengths and weaknesses of different proposals.
- NGOs, opposition political parties and journalists all need to play a strong watchdog role and hold governments accountable, including in court. In a situation where parliamentary oppositions are very weak in some of the countries, the role of NGOs and journalists is even more pronounced.
- NGOs need to push for all voices to be included in the debate. Those already working on energy topics will have more to say on the content of the debate, but those working on local development, dialogue-building and other topics can strongly contribute in their own fields.
- Independent experts, journalists and NGOs need to communicate more in order to achieve more impact and better align their knowledge and positions on the issues. Both journalists and NGOs can benefit from more education about the sector, while experts can benefit from an exchange of views with people with different perspectives. International NGOs can also help with alerting local ones regarding experiences from outside, to stop the southeast European countries repeating mistakes from elsewhere.

ENDNOTES

- 1 For the purposes of this research, these are Bulgaria, Croatia and Romania.
- 2 EWEA, Wind in Power, 2013 European statistics, 8, 2014; http://www.ewea.org/fileadmin/files/library/publications/statistics/EWEA_Annual_Statistics_2013.pdf.
- 3 Frédéric Simon, European coal power output sees 'unprecedented' decline, *Euractiv*, 25 November 2019; <https://www.euractiv.com/section/emissions-trading-scheme/news/european-coal-power-output-saw-unprecedented-drop-in-2019/>.
- 4 For more information, see European Commission, A European Green Deal, Striving to be the first climate-neutral continent, https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en, last accessed 15 April 2021.
- 5 Christian Redl et al., The European Power Sector in 2020, *Agora Energiewende and Ember Climate*, January 2021; <https://www.agora-energiewende.de/en/publications/the-european-power-sector-in-2020/>.
- 6 Not necessarily sustainable renewables, but all those eligible to be counted as renewable under the EU's Renewable Energy Directive, including controversial sources like bioenergy and hydropower.
- 7 Christian Redl et al., The European Power Sector in 2020, *Agora Energiewende and Ember Climate*, January 2021; <https://www.agora-energiewende.de/en/publications/the-european-power-sector-in-2020/>.
- 8 Europe Beyond Coal, Greece and Hungary to phase out coal-fired electricity, 29 September 2019; <https://beyond-coal.eu/2019/09/24/greece-and-hungary-to-phase-out-coal-fired-electricity/>.
- 9 Vladimir Spasić, Hungary to phase out coal by 2025, five years earlier than planned, *Balkan Green Energy News*, 8 March 2021; <https://balkan-greenenergynews.com/hungary-to-phase-out-coal-by-2025-five-years-earlier-than-planned/>.
- 10 Europe Beyond Coal, Greece brings coal exit forward three years to 2025, 22 April 2021; <https://beyond-coal.eu/2021/04/22/80090/>.
- 11 Angeliki Koutantou, UPDATE 2-Greece's PPC wants to speed up coal phase-out, boost renewables by 2024, *Reuters*, December 16, 2019; <https://www.reuters.com/article/public-power-plan-ceo-idUSL8N-28Q1RN>.
- 12 Vladimir Spasić, Slovenian government proposes coal phaseout by 2033, *Balkan Green Energy News*, 19 March 2021; <https://balkan-greenenergynews.com/slovenian-government-proposes-coal-phaseout-by-2033/>.
- 13 Andreja Šalamun, Slovenian TEŠ6 TPP granted operating permit, *Energetika.net*, 10 June 2016; <https://www.energetika.net/en/novice/trading/tes-6-z-uporabnim-dovoljenjem>.
- 14 Grace Alster, Gas power plants overtook lignite in 2020 to become Europe's #1 power sector emitter, *Ember*, 16 April 2021; <https://ember-climate.org/commentary/2021/04/16/gas-power-euets/>.
- 15 Alejandra Borunda, Natural gas is a much 'dirtier' energy source than we thought, *National Geographic*, 19 February 2020; <https://www.nationalgeographic.com/science/article/super-potent-methane-in-atmosphere-oil-gas-drilling-ice-cores>.
- 16 Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia, Serbia.
- 17 Regional Cooperation Council, Sofia Declaration on the Green Agenda for the Western Balkans, 10 November 2020; <https://www.rcc.int/docs/546/sofia-declaration-on-the-green-agenda-for-the-western-balkans-rn>.
- 18 For more information on the Regional Cooperation Council, see www.rcc.int.
- 19 CEE Bankwatch Network, Two-speed energy transition in the Western Balkans, *CEE Bankwatch Network*, 4 June 2020; https://bankwatch.org/wp-content/uploads/2020/06/2020-06-04_Two-speed_energy_transition_Western_Balkans_final.pdf.
- 20 In December 2020 Kosovo also announced it was carrying out a feasibility study into the reconstruction of Kosova A after the demise of the Kosova e Re new coal project, but no investment decision has been taken. Energy Community Secretariat, WB6 Energy Transition Tracker, February 2021; <https://www.energy-community.org/regional-initiatives/WB6/Tracker.html>.



- 21 Energy Community Secretariat, WB6 Energy Transition Tracker; <https://www.energy-community.org/regionalinitiatives/WB6/Tracker.html>.
- 22 The list of interviewees who agreed to have their names disclosed (all except one) is in Annex 2 of this report.
- 23 The list of questions is available in Annex 3 of this synthesis report.
- 24 Calculated from IEA data on electricity generation in 2019. For Croatia, half the generation from the Krško power plant was included as domestic generation; <https://www.iea.org/data-and-statistics/data-tables?country=CROATIA&energy=Electricity&year=2019>.
- 25 Gross domestic product compared to total primary energy supply, i.e. for the energy invested, how much economic activity is generated?
- 26 International Energy Agency statistics, Energy Transition Indicators, Bosnia and Herzegovina, 2018 data, <https://www.iea.org/data-and-statistics?country=BOSNIAHERZ&fuel=Energy%20transition%20indicators&indicator=TPESbyGDP>, last accessed 16 April 2021.
- 27 North Macedonia has at least put options on the table between 2025 and 2040 but as of April 2021 has not made any final decision. See Maja Zuvela and Kole Casule, North Macedonia considers coal phase out between 2025–2040, *Reuters*, 24 February, 2020; <https://www.reuters.com/article/north-macedonia-coal-climate-idUSL5N2A03RL>.
- 28 Kosovo Energy Regulatory Office, Annual Report 2019, March 2020; https://www.ero-ks.org/zrre/sites/default/files/Publikimet/Raportet/Vjetor/Annual Report 2019_ERO.pdf.
- 29 Albania Energy Regulator, Annual Report 2019, 95, 2020; https://ere.gov.al/doc/ERE_annual_report_2019_26102020.pdf.
- 30 In Albania, according to the government's Concession Agency – Agjencia e Trajimit të Koncesioneve (ATRAKO), as of September 2019, the number of hydropower concession contracts signed between the Ministry of Infrastructure and Energy and private companies is 185, corresponding to 466 hydropower plants. However in 2019, journalist Artan Rama revealed that there is another list in existence, for plants with a capacity of less than 2 MW that are not subject to concessions and have been approved on a first-come, first-served basis. For more details, see the Albania country analysis.
- 31 Most of the concessions issued in the Federation of Bosnia and Herzegovina have been approved at the local level rather than the Federation level. Due to the low level of transparency of the local government bodies and the Federal concession commission, there is no complete list available of small hydropower concessions issued.
- 32 North Macedonia's formation of an NGO advisory group during its Energy Strategy process in 2019 was an interesting exception. While NGOs were not able to influence some aspects of the strategy, at least hydropower plants in the Mavrovo National Park were excluded at an early stage.
- 33 Republic of Serbia Ministry of Mining and Energy, Energy Sector Development Strategy of the Republic of Serbia for the Period by 2025 with projections by 2030, 2016; <http://meemp-serbia.com/wp-content/uploads/2018/09/Legislative-Energy-Sector-Development-Strategy-of-the-Republic-of-Serbia-for-the-period-by-2025-with-projections-by-2030.pdf>. Serbia's energy strategy implementation plan did at least change the priorities and narrow down the planned projects; <http://meemp-serbia.com/wp-content/uploads/2018/09/Legislative-Program-for-the-Implementation-of-Energy-Strategy-for-the-period-from-2017-until-2023.pdf>.
- 34 CEE Bankwatch Network, Air pollution in the Balkans – independent monitoring, *CEE Bankwatch Network*, <https://bankwatch.org/beyond-coal/airpollution-balkans>, last accessed 1 June 2021.
- 35 HINA, Sanader gets 6, Hernadi 2 yrs pending appeal in INA-MOL case, *N1*, 30 December 2019; <https://hr.n1info.com/english/news/a471630-sanader-gets-6-hernadi-2-yrs-pending-appeal-in-ina-mol-case/>.
- 36 Akta.ba, Upućen zahtjev za ispitivanje Okolinske dozvole za blok 7 TE Tuzla, *Akta.ba*, 8 November 2019; <https://www.akta.ba/vijesti/upucen-zahhtjev-za-ispitivanje-okolinske-dozvole-za-blok-7-te-tuzla/108895>.
- 37 TOKA, The Battle for Valbona continues, 10 September 2018; <http://toka-albania.org/2018/09/10/the-battle-for-valbona-continues/>.
- 38 Or entity-owned, in the case of Bosnia and Herzegovina.
- 39 For more details and sources of information, see the Serbia country analysis.
- 40 North Macedonia's Energy Strategy sets its coal phase-out options as 2025 or 2040, with 2025 being the cheapest option. However, more recent announcements by ESM suggest that one unit of the Bitola power plant will be converted to gas, while the others will have desulphurisation equipment fitted by 2026 in order to operate for longer. Given the significant investment needed, this indicates that no coal phase-out is planned before at least 2035, though in our opinion it may well happen sooner for economic reasons. Source: Meta.mk, The Green Scenario and the investments in renewable energy remain North Macedonia's strategic priorities in the energy sector, *Meta.mk*, 12 February 2021; <https://meta.mk/en/the-green-scenario-and-the-investments-in-renewable-energy-remain-north-macedonias-strategic-priorities-in-the-energy-sector/>.
- 41 For example through the Projects of Energy Community Interest (PECIs) process (<https://www.energy-community.org/regionalinitiatives/infrastructure/selecion.html>), the October 2020 Western Balkans Economic and Investment Plan (https://ec.europa.eu/commission/presscorner/detail/en/IP_20_1811), and through speeches such as Olivér Várhelyi, Remarks by Commissioner for Neighbourhood and Enlargement Olivér Várhelyi at the 7th Ministerial Meeting of the Southern Gas Corridor Advisory Council, 11 February 2021, https://ec.europa.eu/commission/commissioners/2019-2024/varhelyi/announcements/remarks-commissioner-neighbourhood-and-enlargement-oliver-varhelyi-7th-ministerial-meeting-southern_en.
- 42 Matei Rosca, Romania reveals the limits of China's reach in Europe, *Politico*, 3 March 2021; <https://www.politico.eu/article/romania-recoils-from-china-aggressive-diplomacy/>.
- 43 Alexandru Mustață, Pippa Gallop, As Romania's last new coal project is cancelled, a larger gas threat looms, *CEE Bankwatch Network*, 19 November 2020; <https://bankwatch.org/blog/as-romania-s-last-new-coal-project-is-cancelled-a-larger-gas-threat-looms>.
- 44 Andreea Brinza, How Cernavodă Made Romania a Key Geopolitical Battleground in Europe, *China Observers*, 26 October 2020; <https://chinaobservers.eu/how-cernavoda-made-romania-a-key-us-china-geopolitical-battleground-in-europe/>.
- 45 Suspicions regarding Turkstream centre around its high per-kilometre construction costs. See: Center for the Study of Democracy, Policy Brief No. 94: TurkStream and the Russian Economic Influence in Europe, 16 December 2020; https://csd.bg/fileadmin/user_upload/publications_library/files/2020_12/PB_94_EN_WEB_v1.pdf.
- 46 In Serbia, China has also been active in e.g. the steel and mining sector, at the Smederevo steel mill and Bor mining complex respectively, as well as in tyre manufacturing as at the Linglong factory in Zrenjanin. All of these investments have proven controversial due to their environmental impacts.
- 47 On 20 August 2009 the Serbian government signed a Memorandum of Understanding with the Chinese government on economic and technical cooperation in the field of infrastructure. Annex 2 to this agreement was signed on 26 August 2013 and includes a clause in Article 5 that (our translation): '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.'
- 48 Republic of Serbia, Zakon o potvrđivanju ugovora o zajmu za kredit za povlašćenog kupca za drugu fazu paket projekta Kostolac-B power plant project između Republike Srbije, koju predstavlja Ministarstvo Finansija, kao zajmoprimca i Kineske Export-Import Banke kao zajmodavca, January 2015; http://www.parlament.gov.rs/upload/archive/files/lat/pdf/zakoni/2015/37-15_lat.pdf.
- 49 Zvezdan Kalmar, Kostolac B3 lignite plant loan agreement bypasses public debate and contains unacceptable conditions, *CEE Bankwatch Network*, 16 January 2016; <https://bankwatch.org/blog/campaign-update-kostolac-b3-lignite-plant-loan-agreement-bypasses-public-debate-and-contains-unacceptable-conditions>.
- 50 CEE Bankwatch Network, Who pays, who profits?: How renewables incentives have fed the small hydropower boom and what needs to change, *CEE Bankwatch Network*, September 2019; <https://bankwatch.org/wp-content/uploads/2019/09/who-pays-who-profits.pdf>.
- 51 CEE Bankwatch Network, Renewable energy incentives in the Western Balkans, *CEE Bankwatch Network*, January 2021; https://bankwatch.org/wp-content/uploads/2021/01/2021-01-29_RenewableEnergyIncentives_WesternBalkans_2021.pdf.



- 52 Igor Todorović, High-profile arrests in Croatia highlight claims of corruption in renewables in region, *Balkan Green Energy News*, 5 June 2020; <https://balkangreenenergynews.com/high-profile-arrests-in-croatia-highlight-claims-of-corruption-in-renewables-in-region/>.
- 53 Balkan Green Energy News, EU expects Montenegro to investigate Možura wind farm allegations, *Balkan Green Energy News*, 18 August 2020; <https://balkangreenenergynews.com/eu-expects-montenegro-to-investigate-mozura-wind-farm-allegations/>.
- 54 Visar Prebreza and Jeta Xharra, Unclean energy: The Kosovar who would own the sun, *Prishtina Insight*, 2 June 2020; <https://prishtinainsight.com/unclean-energy-the-kosovar-who-would-own-the-sun-mag/>.
- 55 For an explanation of why this is not the case, see e.g. Fredrik Bodecker, The Death of Baseloid, 5 April 2018; <https://www.linkedin.com/pulse/death-baseloid-fredrik-bodecker/>.
- 56 HE na Trebišnjici, Osnovna koncepcija razvoja, <https://henatrebinjici.com/osnovna-koncepcija-razvoja/>, last accessed 16 April 2021.
- 57 HE na Drini, Novi objekti, <https://www.henadrini.com/novi-objekti/>, last accessed 16 April 2021.
- 58 ELEM, Development Opportunities in the Republic of Macedonia, Business Forum Skopje, 3 December 2018; https://issuu.com/ic-eskopje/docs/elem_-_ice_skopje__3_december_2018.
- 59 Tirana Times, Albania and the US revamp economic cooperation, *Tirana Times*, 4 October 2020; <https://tiranatimes.com/?p=147311>.
- 60 CEE Bankwatch Network, Kolubara B lignite-fired power plant, Serbia, *CEE Bankwatch Network*, <https://bankwatch.org/project/kolubara-b-lignite-fired-power-plant-serbia>, last accessed 19 April 2021.
- 61 For example a 2010 decision by the then Federation of Bosnia and Herzegovina government designated six coal power plant projects, seventeen hydropower projects and six wind projects as being of “public interest”. So far, only two wind projects have been completed and none of the others, yet none of the projects has been publicly acknowledged as cancelled; <http://www.fbihvlada.gov.ba/bosanski/zakoni/2010/odluke/38hrv.htm>.
- 62 CEE Bankwatch Network, Western Balkans hydropower: who pays, who profits?, *CEE Bankwatch Network*, September 2019; <https://bankwatch.org/publication/western-balkans-hydropower-who-pays-who-profits>.
- 63 Kostolac B3 in Serbia is under construction and the draft National Spatial Plan includes the Štavalj, Kovin and Kolubara B coal power plants. While the latter has been on the political agenda again since 2018, the former two do not appear to be progressing, and their re-appearance is both surprising and worrying. In Bosnia and Herzegovina, preparatory works for Tuzla 7 have been undertaken and financing secured, while other planned plants such as Banovići, Gacko II, Ugljevik III and Kamengrad are at a much earlier stage.
- 64 Greg Muttitt et al, The Sky's Limit, *Oil Change International*, March 2016; http://priceofoil.org/content/uploads/2016/09/OCI_the_skys_limit_2016_FINAL_2.pdf.
- 65 Adam Vaughan, World has no capacity to absorb new fossil fuel plants, warns IEA, *The Guardian*, 13 November 2018; <https://www.theguardian.com/business/2018/nov/13/world-has-no-capacity-to-absorb-new-fossil-fuel-plants-warns-iea>.
- 66 Mihai Nicut, The gas connection will be free for all individuals, regardless of where the place of consumption is, and is done within 90 days. New law, *Economica.net*, 25 September 2020; https://www.economica.net/racordare-gaze-gratis-termen-90-zile-lege-racord-gaze-populatie-regulament-consumatori-casnici_190375.html.
- 67 Greenpeace Romania, The Oltenia Energy Complex calls for more than € 1 billion to restructure and decarbonize, but significantly increases CO₂ emissions over the next 10 years, 2 February 2021; <https://cee.press.greenpeace.org/oltenia-energy-european-commission/>.
- 68 Albania has recently had the Trans-Adriatic Pipeline built across it, but does not have a network to further distribute the gas within the country, though its Gas Master Plan does envisage investments in developing the gas sector.
- 69 Kira Taylor, ‘Gas is over’, EU bank chief says, *Euractiv*, 21 January 2021; <https://www.euractiv.com/section/energy-environment/news/gas-is-over-eu-bank-chief-says/>.
- 70 Energy Community, Priority Project Selection – PCI/PMI, <https://www.energy-community.org/regionalinitiatives/infrastructure/selec-tion.html>, last accessed 20 April 2021.
- 71 European Commission, Western Balkans: An Economic and Investment Plan to support the economic recovery and convergence, 6 October 2020; https://ec.europa.eu/commission/presscorner/detail/en/IP_20_1811.
- 72 European Commission, Commission staff working document, Guidelines for the Implementation of the Green Agenda for the Western Balkans, 6 October 2020; https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/green_agenda_for_the_western_balkans_en.pdf.
- 73 Renewable gas in the form of biogas can be a local alternative, but scaling it up raises most of the same issues as biofuels – using monocultural food crops to produce energy instead of food, with all the food security and biodiversity issues this brings, as already experienced in Germany. Kenneth Richter, Is the EU about to re-run the biofuels disaster with biogas?, *EU Bioenergy*, 12 October 2018; <https://www.eubioenergy.com/2018/10/12/eu-re-run-biofuels-disaster-biogas/>.
- 74 So-called ‘green hydrogen’, or hydrogen produced from renewable sources, is expected to take two decades to become cost-competitive with fossil fuels. Will Mathis, Green Hydrogen Set to Be Competitive With Fossil Fuels by 2040, *Bloomberg*, 25 August 2020; <https://www.bloomberg.com/news/articles/2020-08-25/green-hydrogen-set-to-be-competitive-with-fossil-fuels-by-2040>.
- 75 Malgorzata Smolak, Legal analysis on including the EU Birds, Habitats and Water Framework Directives into the Energy Community Treaty, *CEE Bankwatch Network*, WWF Adria, ClientEarth, January 2021; https://bankwatch.org/wp-content/uploads/2021/01/2021-01-29_LegalAnalysis_EUDirectives_ECT_final.pdf.
- 76 See e.g. EcoAlbania, Albanian and international science community stands up against damming the Vjosa river, 15 February, 2020; <https://www.ecoalbania.org/en/2020/02/15/albanian-and-international-science-community-stands-up-against-damming-the-vjosa-river/>.
- 77 CEE Bankwatch Network, Buk Bijela dam and the Upper Drina cascade, *CEE Bankwatch Network*, <https://bankwatch.org/project/buk-bijela-the-upper-drina-cascade>, last accessed 20 April 2021.
- 78 See for example: WWF, 500+ scientists tell EU to end tree burning for energy: “Regrowth takes time the world does not have to solve climate change”, they write, 11 February 2021; <https://www.wwf.eu/?uNewsID=2128466>.
- 79 Ksenija Radovanović, The Belgrade Solid Waste Public-Private Partnership, *CEE Bankwatch Network*, *Zero Waste Europe*, *Counter Balance*, December 2019; <https://bankwatch.org/wp-content/uploads/2019/11/Vinca-PPP.pdf>.
- 80 Greenpeace Bulgaria, According to the disclosed secret correspondence, Bobov Dol Thermal Power Plant burns thousands of tons of garbage, 13 October 2020; <https://cee.press.greenpeace.org/bobov-dol-burns-thousands-tons-of-garbage/>.
- 81 For more information, see European Commission, Chapters of the acquis, https://ec.europa.eu/neighbourhood-enlargement/policy/conditions-membership/chapters-of-the-acquis_en, last accessed 1 June 2021.
- 82 European Commission, May infringements package: key decisions, 14 May 2020; https://ec.europa.eu/commission/presscorner/detail/en/inf_20_859.
- 83 Energy Industry Review, Romania One Step Closer to CJEU Due to Coal-fired Power Plants, *Energy Industry Review*, 6 July 2020; <https://energyindustryreview.com/metals-mining/romania-one-step-closer-to-cjeu-due-to-coal-fired-power-plants/>.
- 84 European Commission, Air quality: Commission decides to refer Bulgaria to the Court of Justice over its failure to comply with previous judgement, 3 December 2020; https://ec.europa.eu/commission/presscorner/detail/en/IP_20_2150.
- 85 ClientEarth, Green groups petition EU over Bulgaria’s untackled SO₂ pollution, 19 January 2021; <https://www.clientearth.org/latest/press-office/press/green-groups-petition-eu-over-bulgaria-s-untackled-so2-pollution/>.
- 86 Igor Todorović, ELES CEO: Slovenia must set coal phaseout date as soon as possible, *Balkan Green Energy News*, 19 April 2021; <https://balkangreenenergynews.com/eles-ceo-slovenia-must-set-coal-phaseout-date-as-soon-as-possible/>.
- 87 International Energy Agency statistics, Bulgaria, 2019; <https://www.iea.org/data-and-statistics/data-tables?country=BULGARIA&energy=Electricity&year=2019>.



- 88 Energy Community Secretariat, Implementation Report 2020, November 2020; <https://www.energy-community.org/implementation/IR2020.html>.
- 89 One example is the 2014 amendments to the Environmental Impact Assessment Directive, which all countries were obliged to implement by 1 January 2019 under the Energy Community Treaty. To the best of our knowledge, Montenegro is the only one which has done this.
- 90 Pippa Gallop, NGOs expect Energy Community infringement procedure on Montenegrin coal plant, *CEE Bankwatch Network*, 19 April 2021; <https://bankwatch.org/blog/ngos-expect-energy-community-infringement-procedure-on-montenegrin-coal-plant>.
- 91 Ioana Ciuta, Pippa Gallop, and Davor Pehchevski, Comply or Close, 2020 Update, *CEE Bankwatch Network*, June 2020; https://bankwatch.org/wp-content/uploads/2020/06/COMPLY-OR-CLOSE-How-Western-Balkan-coal-plants-breach-air-pollution-laws-and-what-governments-must-do-about-it-2020-Update_final_eng.pdf.
- 92 Energy Community Secretariat, Two billion euros burnt in coal subsidies by Energy Community Contracting Parties in 2015–2019, 2 December 2020; <https://energy-community.org/news/Energy-Community-News/2020/12/02.html>.
- 93 European Parliament, Carbon border adjustment mechanism as part of the European green deal, <https://www.europarl.europa.eu/legislative-train/theme-a-european-green-deal/file-carbon-border-adjustment-mechanism>, last accessed 22 April 2021.
- 94 See the Legislative Train Schedule for the European Green Deal, <https://www.europarl.europa.eu/legislative-train/theme-a-european-green-deal/file-carbon-border-adjustment-mechanism>, last accessed 1 June 2021.
- 95 Poslovni Dnevnik, Pomoć bivše crnogorske vlade privatnom KAP-u skrivena iza brige o ekologiji, 13 April 2021; <https://www.poslovni.hr/regija/pomoc-bivse-crnogorske-vlade-privatnom-kap-u-skrivena-iza-brige-o-ekologiji-4282150>.
- 96 Ioana Ciuta and Pippa Gallop, The great coal jobs fraud: How unrealistic employment claims are deceiving coal mining communities in southeast Europe and delaying a just transition to sustainable energy, 2018 update, *CEE Bankwatch Network*, June 2018; <https://bankwatch.org/wp-content/uploads/2018/06/Jobs-study-june-2018-update-ENG-CEE-Bankwatch.pdf>.
- 97 Danas, Vučić: Novi otkop u Kolubari obezbeđuje ugalj za narednih 60 godina, Danas, 14 May 2020; <https://www.danas.rs/politika/vucic-novi-otkop-u-kolubari-obezbedjuje-ugalj-za-narednih-60-godina/>.
- 98 S.E. Weishaar and S. Madani, Report on the long-term economic viability of constructing new electricity capacities for electricity exports in the Western Balkan countries, *CEE Bankwatch Network*, February 2015; <https://bankwatch.org/sites/default/files/WBalkans-stranded-assets.pdf>.
- 99 S.E. Weishaar and S. Madani, Report on the long-term economic viability of constructing new electricity capacities for electricity exports in the Western Balkan countries; <https://bankwatch.org/sites/default/files/WBalkans-stranded-assets.pdf>.
- 100 Vladimir Spasić, Bulgaria, North Macedonia to couple day-ahead markets in 2022, *Balkan Green Energy News*, 8 December 2020; <https://balkangreenenergynews.com/bulgaria-north-macedonia-to-couple-day-ahead-markets-in-2022/>.
- 101 CROSS BOrder management of variable renewable energies and storage units enabling a transnational Wholesale market; <http://crossbowproject.eu/about-crossbow/>.
- 102 European Union Agency for the Cooperation of Energy Regulators and the Council of European Energy Regulators, ACER Market Monitoring Report 2019 – Energy Retail and Consumer Protection Volume, 26 October 2020; https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/ACER_Market_Monitoring_Report_2019_-_Energy_Retail_and_Consumer_Protection_Volume.pdf.
- 103 Government of Bulgaria, Bulgaria Implementation Plan, 2020; https://ec.europa.eu/energy/sites/default/files/bg_implementation_plan_20012020.pdf.
- 104 I.e. The Western Balkan countries plus Moldova and Georgia.
- 105 European Union Agency for the Cooperation of Energy Regulators and the Council of European Energy Regulators, ACER Market Monitoring Report 2019 – Energy Retail and Consumer Protection Volume, 26 October 2020; https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/ACER_Market_Monitoring_Report_2019_-_Energy_Retail_and_Consumer_Protection_Volume.pdf.
- 106 European Union Agency for the Cooperation of Energy Regulators and the Council of European Energy Regulators, ACER Market Monitoring Report 2019 – Energy Retail and Consumer Protection Volume, 26 October 2020; https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/ACER_Market_Monitoring_Report_2019_-_Energy_Retail_and_Consumer_Protection_Volume.pdf.
- 107 European Commission, Member State Reports on Energy Poverty 2019, May 2020; https://www.energypoverity.eu/sites/default/files/downloads/publications/20-06/mj0420245enn.en_.pdf.
- 108 European Union Agency for the Cooperation of Energy Regulators and the Council of European Energy Regulators, ACER Market Monitoring Report 2019 – Energy Retail and Consumer Protection Volume, 26 October 2020; https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/ACER_Market_Monitoring_Report_2019_-_Energy_Retail_and_Consumer_Protection_Volume.pdf.
- 109 Croatia, Montenegro, North Macedonia, Romania and Serbia
- 110 Bosnia and Herzegovina
- 111 Albania, Kosovo and Bulgaria
- 112 Srećko Latal, Stakes Could Not be Higher in Bosnian Electoral Reform Bid, *Balkan Insight*, 11 March 2021; <https://balkaninsight.com/2021/03/11/stakes-could-not-be-higher-in-bosnian-electoral-reform-bid/>.
- 113 For example, the Bosnia and Herzegovina Energy Strategy (http://www.mvteo.gov.ba/data/Home/Dokumenti/Energetika/Framework_Energy_Strategy_of_Bosnia_and_Herzegovina_until_2035_ENG_FINAL....pdf) and Second Nationally Determined Contribution (https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Bosnia-Herzegovina/First/NDC_BiH_November_2020_FINAL_DRAFT_05_Nov_ENG_LR.pdf), both funded by international donors, included plans to build more new coal plants, in contradiction to the EU's 2050 carbon neutrality goal, and neither document underwent a Strategic Environmental Impact Assessment process. Yet to the best of our knowledge, the Energy Community Secretariat was the only international institution to publicly raise any issues (<https://balkangreenenergynews.com/kopac-warns-bih-framework-energy-strategy-until-2035-is-useless-without-related-law/>) about the quality of these documents, while others welcomed them unconditionally (see <https://twitter.com/lars-gwigemark/status/1034816138423795712>, <https://twitter.com/josattler/status/1384884568705179656> and <https://twitter.com/MacdonaldIngrid/status/1372503293289717762> for example).
- 114 Tomašević et al, Naše Željeznice, analiza upravljanja željezničkim uslugama u Hrvatskoj uz komparativni pregled zemalja, *Institut za Političku Ekologiju*, 2020; http://ipe.hr/wp-content/uploads/2020/07/IPE_Nas%CC%8Ce_Z%CC%8Czeljeznice_WEB.pdf.
- 115 For more information, see for example Transport and Environment, Biofuels, <https://www.transportenvironment.org/what-we-do/biofuels>, last accessed 12 April 2021.
- 116 Balkan Green Energy News, EBRD supports Western Balkans in decarbonizing district heating and cooling systems, improving energy efficiency in buildings, *Balkan Green Energy News*, 11 March 2020; <https://balkangreenenergynews.com/ebd-supports-western-balkans-in-decarbonizing-district-heating-and-cooling-systems-improving-energy-efficiency-in-buildings/>.
- 117 Specific recommendations are given in each country analysis, this is a summary of points which apply to most or all of the countries analysed.
- 118 CEE Bankwatch Network's Eight steps for a just transition in the Western Balkans guide, May 2021, may be of assistance; <https://bankwatch.org/publication/eight-steps-for-a-just-transition-in-the-western-balkans>.
- 119 For example, renewable hydrogen is likely to have some role to play in the future, but only for very hard to decarbonise sectors like aviation and certain industries, and its production is energy-intensive. Therefore, promoting it in a context where there is still a low level of renewable energy is likely to use scarce renewables capacity for hydrogen while prolonging the use of fossil fuels for other purposes, and ultimately delaying the transition.
- 120 Such as hydropower or the large-scale use of biofuels or biogas.

ALBANIA





ENERGY SECTOR OVERVIEW

Albania, with around 2.8 million people, differs from most of the countries in southeast Europe in that it is almost entirely dependent on hydropower in its power sector.

Its state-owned power utility, the Albanian Power Corporation (*Korporata Elektroenergetike Shqiptare* (KESH)), owns three large hydropower plants on the Drin River:

- Fierza, 500 MW
- Komani, 600 MW
- Vau i Dejës, 250 MW

It also owns a 98 MW gas and oil power plant in Vlora which never started commercial operations due to technical problems.

Albania also has 197 privately-owned power generation facilities totalling 815 MW. Most are small hydropower plants, though eight are solar plants producing a total of 15 MW. Of the privately-owned hydropower plants, the larger ones are the Ulez and Shkopet plants owned by Turkish steelmaker Kurum International, Peshqesh and Fangu owned by Turkey's Ayen As Energji, Banje owned by a subsidiary of Norway's Statkraft called Devoll Hydropower, Ashta owned by Austria's Verbund and Gjorica owned by a company called Diteko.

Successive governments in Albania have awarded at least 194 concessions for no fewer than 540 hydropower plants since 2002. The real number remains unknown, as there is no updated list of hydropower concessions publicly available.

Not all of these have been built, but the 2018 Energy Regulator's annual report shows no fewer than 111 new plants under 10 MW having gone online since 2009, in addition to 32 pre-existing ones. No fewer than 29 more small hydropower plants went online in 2019, so the boom is still very much ongoing.

Until the legislation was changed in 2017, incentives were only available for hydropower, not solar or wind. Albania is also one of only two countries in the region (with Serbia) to have offered feed-in tariffs to hydropower plants larger than 10 MW – in this case up to 15 MW. As of the end of 2019, there were 182 hydropower plants in the incentives scheme, mostly under 10 MW, but at least eight plants between 10 and 15 MW.

Plants included in the incentives scheme – not including Ashta, which is regulated by a specific contract – generated almost 24 per cent of Albania's domestic generation, or 16.7 per cent of its 2019 consumption. This is much more than small hydropower plants contribute in the rest of the region. This is partly because of the sheer number and relatively large size of some of the incentivised plants, but also because almost all the rest of Albania's generation consists of hydropower plants as well. So, in years with little rainfall, generation is low across the board.

Albania's almost total dependence on hydropower means its electricity generation fluctuates considerably. From 2010 to 2019, it met its demand only three times, despite the addition of a significant amount of new hydropower capacity during this period.

Electricity consumption remained relatively constant between 2010 and 2018, peaking in 2013 and then going back down again.

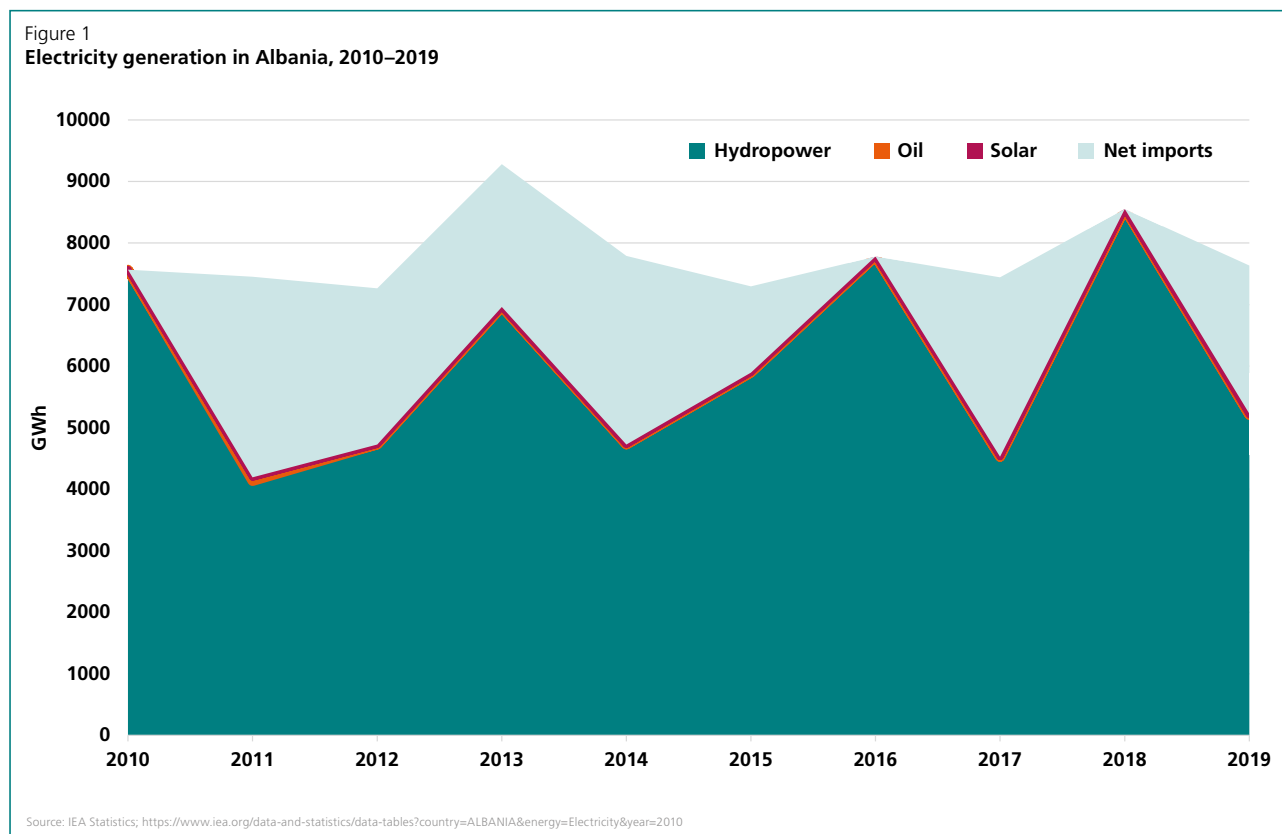
Albania undertook to reach a share of 38 per cent per cent renewables in final energy consumption by 2020, compared to 31.2 per cent in 2009. In 2019, Albania was close to reaching this target, with a 36.8 per cent share, but final figures for 2020 are not available as of May 2021.

Clearly Albania had a favourable starting point compared to other countries, but diversification of the energy mix is still sorely needed. Two auctions have been held for large solar installations, but the country's installed solar capacity at the end of 2019 amounted to no more than 15 MW.

Table 1
Installed capacity of electricity generation facilities in Albania, 2019

Source	MW	Per cent of installed capacity
Large hydropower	1,675	70.6
Hydropower under 15 MW (Albania's definition of small hydropower)	585	24.7
Oil/gas (not operational)	98	4.1
Solar	15	0.6

Source: Energy Regulatory Authority, Annual report 2019; https://ere.gov.al/doc/ERE_annual_report_2019_26102020.pdf



Albania was the only one of the Western Balkan countries whose first Nationally Determined Contribution (NDC) under the Paris Agreement would result in a real drop in emissions compared to their 2012 level. It pledged to reduce its CO₂ emissions by 11.5 per cent compared to the baseline scenario for the period from 2016 to 2030. Its second NDC is not yet ready at the time of writing.

On energy efficiency, Albania's most recent report to the Energy Community shows it has undertaken quite some activities, but its primary energy consumption and final energy consumption increased in 2017 and 2018.

Albania's energy intensity is not as high as others in the region, but it is still more than twice as high as the EU average. The transport sector is responsible for the highest share of total final energy consumption, followed by the residential sector and cross-sectoral electricity consumption, and has very high potential for improvements. Albania has massive electricity distribution network losses, amounting to 21.79 per cent in 2019 – which is still an improvement compared to previous years.

Data on heating in Albania is hard to come by, but according to a 2017 report, nearly two-thirds of heat is produced by electricity, 20 per cent by biomass, and smaller amounts by oil and gas. This puts further strain on the electricity sector but also represents an opportunity to leap straight to heat pumps rather than embarking on gasification of the heating sector. Albania currently has no district heating.

Private road transport predominates for both passenger and goods transport. Public transport consists mainly of buses

and coaches and the rail network is very limited indeed. It has been in steady decline since the 1990s and there are no cross-border passenger services at all. However, it has recently been reported that the Tirana-Durres line is to be rehabilitated and a line from Tirana to the airport built.

Albania is one of the few Balkan countries producing oil – 1,005,000 tonnes in 2019. The state-owned Albpetrol is active in the development, production and trade of crude oil, while the largest oil producer is Bankers Petroleum, now Chinese-owned.

The country is not connected to international gas networks at the moment, though the controversial Trans Adriatic Pipeline has been built on its territory. Albania produces a small amount of gas, mostly used in oil production and the refining industry. It also has an outdated pipeline network of 498 kilometres, which is mostly not operational.

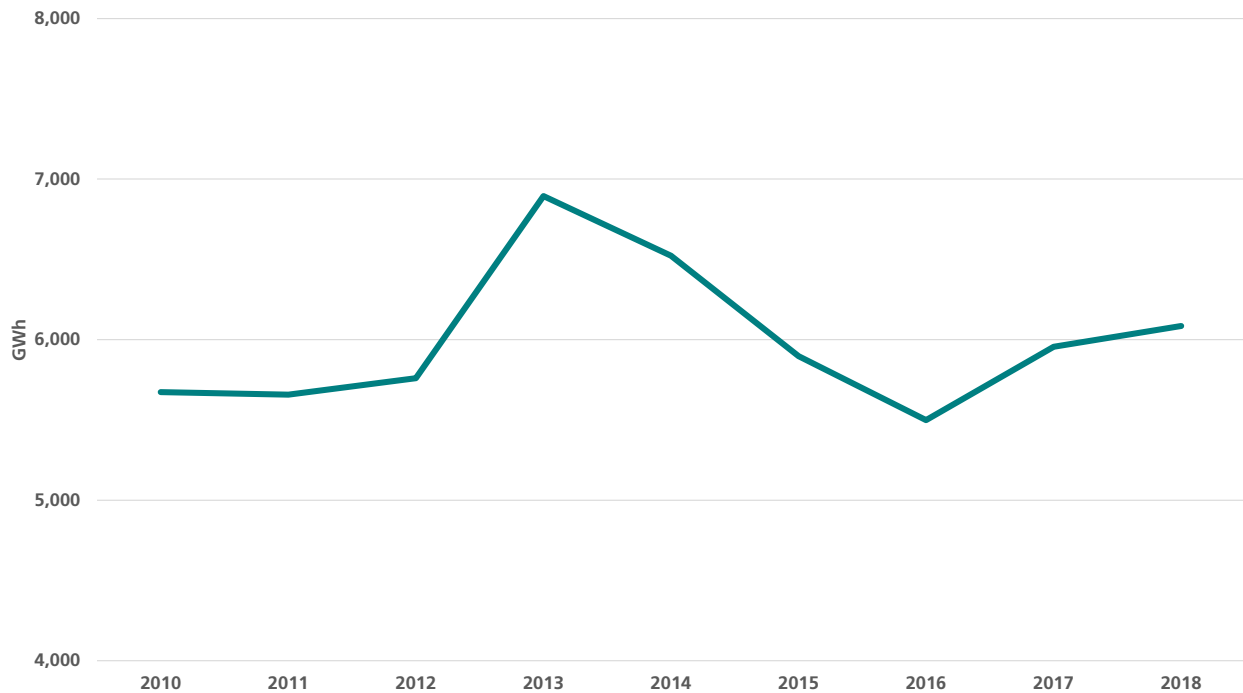
Albania's net energy import dependence was 21 per cent in 2018, compared to the EU-28 average for the same year of nearly 58 per cent. This is presumably due to its lack of gas use, domestic oil production and, in wet years like 2018, a high share of domestic electricity production. In 2017, a much drier year, the country's energy dependence shot up to over 38 per cent.

ALBANIA'S ENERGY POLICIES

By signing the Green Agenda for the Western Balkans, Albania has committed to achieve decarbonisation by 2050. This might sound relatively easy for a country whose elec-



Figure 2
Electricity consumption in Albania



Source: IEA Statistics, Electricity; <https://www.iea.org/data-and-statistics/data-tables?country=ALBANIA&energy=Electricity&year=2010>

tricity generation is already completely based on renewable sources, and which uses a high share of electricity for heating, but there is a danger of Albania making a partial transition to – not away from – fossil fuels in the coming years.

With the construction of the TAP gas pipeline, Albania adopted a Gas Master Plan which planned to increase the share of gas in the total primary energy supply from 0.4 per cent in 2013 to 28 per cent in 2040, or 18 kilotonnes of oil equivalent (ktoe) (210 GWh) in 2013 to 1,371 ktoe (15,950 GWh) in 2040 and to install three gas-fired power plants. Albania's National Energy Strategy for the period from 2018 to 2030 also plans around 200 MW of gas power plants, arguing that they can replace imports.

Nevertheless, our interview respondents welcomed the Energy Strategy's overall approach of diversifying Albania's renewable energy mix. One mentioned that it does not go far enough, and that it still continues to promote even more hydropower construction, while another pointed out that there is an overall weakness in assessing the environmental impact the strategy's implementation would have. Other weaknesses of the strategy seen by our respondents include the slow transition to electric transportation or a better fleet of public transport, as well as insufficient measures to address Albania's large energy losses.

One respondent pointed out that historically, Albania has not been good at implementing what it has written in strategic documents, so the strategy may not be particularly relevant, and another pointed out that it in any case can-

not adequately capture what will happen on the market in the coming years, and rather leaves it open to the private sector to decide what will happen.

Work has started on Albania's National Energy and Climate Plan (NECP), which should define renewable energy, greenhouse gas emissions reduction and energy efficiency targets for 2030, but as of May 2021 no draft is yet publicly available.

WHY IS ALBANIA'S ENERGY TRANSITION NOT ADVANCING MORE QUICKLY?

Before looking in more detail at factors holding back Albania's energy transition, it is worth underlining what transition means in this context, given that the country is starting from a point of hydropower dependence in the power sector rather than fossil fuel dependence. One of the goals has to be to reduce the massive fluctuation in Albania's annual electricity generation, by reducing electricity demand and diversifying renewable energy sources. Heating is key in this effort, given the high electricity consumption for this purpose, and so is reducing distribution network losses.

But in the transportation sector, Albania is just as fossil fuel-dependent as other countries. This sector uses the most energy in the country, so this certainly needs to be addressed as well – both by decreasing overall energy usage, as well as by moving away from using fossil fuels for transport. Therefore, below, we look at what is holding such changes back.

STATE CAPTURE BY INCUMBENT UTILITIES, LACK OF TRANSPARENCY AND RULE OF LAW

Our respondents varied in their responses as to the scale and importance of these issues. Unsurprisingly, non-governmental organisation (NGO) representatives were more vocal about the influence of vested interests on decision-making, while experts more used to working with the authorities were more diplomatic.

'That's the top... obstacle... not specifically in the energy sector, but in infrastructure and road construction and all these PPPs [public-private partnerships] or concessions are... hiding a scandal behind... And in hydropower there are many, many scandals... [T]he general opinion... is that no matter which way or what policy the politicians will adopt, the first priority for them is how to make money out of this and then how to restore or how to improve the things... It has been like this and this will be like this for a couple of centuries. And it's not only in Albania, it's everywhere...'

'I see it as a political infection... It is really [well]-known how corruption can work with hydropower because the technology is known. The companies that are operating in... the sector are known. And they have their... well-established connection with the politicians... It's a kind of well-set and stabilised triangle between the construction companies, the concessionary companies or the energy companies and the political [actors], and also including the banks, especially, the ones that are giving the money for these investments.'

'All of these could be there. Let's say corruption is something connected with the deepest behaviour of the human. So it could be and this is always in the transition countries.'

'We have a lot of problems with the lack of transparency and corruption sometimes. And because the energy sector is quite a profitable sector, let's say, everyone thinks that [they] can benefit from some not transparent procedures that can happen. I think that there are cases, of course... also in the most developed countries, maybe there are cases of lack of transparency... [As] a citizen of Albania, I can perceive that in some projects they develop.'

Transparency was also understood in different ways by the different respondents. Relations with the Ministries regarding access to information was felt to be improving by one civil society respondent, while another respondent pointed to a lack of transparency on the energy market with the current import situation. However, another respondent sees this changing soon with the opening of the energy market in Albania.

'The communication that we have with the institutions is a correct communication because we have an exchange of information and usually they are quite responsive in answering questions. But... in our environ-

mental communication, when there are sensitive topics this is the most problematic discussion, because they are not ready to exchange information with you and maybe the communication becomes a little bit aggressive and things like this. But it depends on the topic...'

'The government needs to be a little bit more transparent with their decisions so the people can more positively welcome the initiatives that the government is doing. But mostly [they] are acting like, "We will do this and it is something that needs to be done and [full stop]." So, maybe I think that transparency in this context... needs to be improved to make the people participants of these things.'

'The high energy loss leads to energy imports with high prices during peak demand thus causing transparency concerns. The Albanian energy distribution is still a state-owned monopoly; thus, [there are] not many incentives to improve its efficiency.'

'The power exchange is going to change everything, it's the first step and everything will not be like before, because... the public companies, the incumbent producer and distributor [will have] to transit this part of energy through the power exchange that is one of the most transparent platforms. [People benefitting from the tendering procedure] – that is going to be completely interrupted very soon.'

We were surprised that not all our respondents put a strong emphasis on these issues, as our experience is that although the Energy Regulator's annual reports are very informative about developments in the sector in general, it is hard to access information about individual energy projects and even harder to influence their development. The following examples illustrate this point.

Mystery hydropower plans: The true number of hydropower plants approved by the government is surprisingly hard to pin down. According to the government's Concession Agency (Agjencia e Trajtimet të Koncesioneve (ATRAKO)), as of September 2019, the number of hydropower concession contracts signed between the Ministry of Infrastructure and Energy and private companies is 185, corresponding to 466 hydropower plants.

However in 2019, journalist Artan Rama revealed that there is another list in existence, for plants with a capacity of less than 2 MW that are not subject to concessions and have been approved on a first-come, first-served basis. This list was provided through a court ruling following refusal of access to information by the Ministry of Energy. It included 73 new contracts corresponding to 79 hydropower plants, and a register of 132 unsolicited proposals which were approved earlier and cover another 144 hydropower plants. Together with a deal signed in 2002 with an Italian company to rehabilitate 25 existing small hydropower plants, Rama calculated that as of September 2019, the real number of approved hydropower plants was no fewer than 714!

**Unclear progress in addressing hydropower issues:**

Although the authorities in 2019 promised to unilaterally terminate 27 non-performing contracts that correspond to 80 hydropower plants, it is unclear whether this pledge is being implemented in reality. The same goes for Edi Rama's July 2019 pledge not to approve any more plants under 2 MW. Since the register of such plants is not public, it is unclear whether any new approvals have taken place.

The Valbona hydropower case: The permitting processes for the Dragobi and Cerem hydropower plants in the Valbona National Park were full of legal violations, such as issuing a construction permit without the relevant environmental approval, which are now subject to ongoing legal proceedings both in Albanian courts and at the Energy Community.

One of the most egregious points is the alleged falsification of signatures of villagers from Dragobi in 2013, for which criminal charges were brought by local NGO TOKA and 30 villagers in 2018. The violation of the law happened on 3 April 2013 during a mandatory public consultation period where the representative of the company DRAGOBIA ShPK and the village leader seem to have falsified signatures on minutes for a meeting claiming to be a public consultation. It is not clear whether any meeting happened, but if so it certainly was not public. Signatures were guaranteed by the accused for two people that were dead at the time they were supposed to have signed.

The court did not dispute that the signatures were falsified, but dismissed the case claiming that it had not been submitted in a timely manner, which the complainants hotly disputed. The court-appointed officer charged with investigating the issue of the signatures was a son of the engineer in charge of the hydropower construction.

Vjosa's future in the balance: In September 2020, Prime Minister Edi Rama wrote on Twitter that hydropower plants would not be built on the river Vjosa. Three months later, on December 28 2020, the National Territorial Council (KKT) chaired by him approved the new boundaries of protected areas. The announcement of the meeting was only published the day after the meeting took place, and the content of the decisions taken only became known to the public due to a leak to the media. The maps submitted to KKT reveal that the controversial Poçemi and Kalivaç hydropower plants are planned to go ahead, and another territory, along the southern border of the Karaburun Reserve protected area near Vlorë, was stripped of its protection status.

Our experience suggests that, although all countries in the region have serious problems with transparency and integrity in the energy sector, access to environmental information and public participation appears to be particularly difficult in Albania, which represents a serious barrier to ensuring the quality of the country's energy transition. Nevertheless, at least some of our respondents do see some improvements taking place.

When it comes to advancing decentralised, prosumer energy, at least one of our respondents believes that the incumbents are not likely to allow this to happen easily.

'When we are talking about energy, we are talking... about power in all meanings of the word power. Not power as a force, but also political power, economic power, it's power... And this is why the energy sector will always be centralised. We'll never get to this capillary decentralisation, because the ones that are managing the energy, then they will be powerless.'

Nevertheless, the EU's Clean Energy for All Europeans package does bring quite some obligations for Albania in this field, so it will not be able to resist completely.

OUTDATED VIEW OF THE ENERGY SYSTEM, LACK OF EXPERTISE BY DECISION MAKERS

Our respondents tended to agree that Albania's decision makers overall see the benefits of renewables such as solar and wind, but on the level of implementation there was agreement that there is a lack of experience and knowledge on how to really implement such projects in practice. Nevertheless, clear steps have been made.

'I am really amazed at the steps undertaken by Albania towards energy transition or diversification. Albania is a hydro dependent country, and the last years have been important in the approval of several solar parks, the opening of an energy market and the auction for the wind farm.'

However, overall, some respondents felt that there is a relatively high amount of engineering expertise, but much less management expertise and legal expertise connected to the wider market reform agenda, which may end up meaning that Albania does not benefit as much as it should from the ongoing changes. As with some of the other countries in the region, much of the expertise comes from outside through donor projects, without really building domestic capacity.

'To a certain extent, I think this is also relevant for Albania... [This is happening] [m]ainly on the new alternatives, especially on wind and solar. There still is a lack of knowledge... The decision makers here are only used to hydro because this is what they have inherited from the communism period and this is what they know so far. So, for them the wind, solar..., other alternatives, is something new, so they for sure need more support to understand and to get more information on how to do this.'

'In my perception... they are pretty aware of the benefits that renewable energy and energy efficiency have on the country... But of course, if the government is not investing in electric buses, is not investing more... in another sector for energy transition, I think... they do not see benefits from specific projects to invest in Albania. So, I think that it is related with the benefit that the government bodies connect with specific projects for energy transition.'

'[The employment of people in ministries] doesn't have too much to do with the real capacity of the persons... We have careerist people that... are not experts... Even at the higher level, the highest possible, from the meetings that I have day by day, I'm seeing... that they are even not informed, and they are not clear what they are going to do, but they are working step by step... So, there is a huge lack of human capacities and we are talking here at the highest level.'

'... I could tell you examples from our other sectoral reforms... what we are faced with, for example, in the vetting process in the judiciary... we lack now the persons to be going further with the reform. So, it's the same for energy... The full development will come [when] we release the power exchange, APEX,... this year... That will definitely be the moment that we have... put a stop to this period of making reports copy-paste..., etc. ... We are going to see a rise in cost and we are going to wonder why this happened and the people... are not going to be happy. And this is one of the major risks that we have. These reforms without capacities.'

'What we have done up to now has to do with only building, so what we completely lack, like capacity in general, is the management. And of course, we are working with audits and managers. But I see even them, I am lecturing their courses, but... [they are just there] to get the certification, others are just willing to do some work. But they completely lack the capacity. Entrepreneurial capacities, business capacities, because also they are engineers, for example, [who] have a technical background...'

'We got an office and we got all the legislation of the Swiss and we are, from tomorrow or after one week, we are behaving like we are Swiss.'

FALSE SOLUTIONS

Our respondents did not attribute much importance to false solutions compared to those in other countries, but one pointed out that hydropower is still very much promoted, despite Albania's dependence on it and the resulting annual variations in electricity generation.

Despite the opening of the TAP pipeline, they did not see a massive switch to gas coming any time soon.

'For this gas, we have this TAP route that is passing through Albania. But it is not that... we rely on this gas, because this is not only for Albania, it is the route that is passing through Albania.'

'Although Albania is a transit of the TAP pipeline which started the first gas flow in January 2021, Albania is not ready to benefit from natural gas to replace industrial and residential heating.'

What seems to be a much larger problem is the broader lack of strategic planning and environmental safeguards which can result in any type of energy project being problematic.

In addition to the hydropower examples named above, the locations for Albania's first solar auctions were also either in or right next to protected areas, and it has yet to be seen whether they can be built without causing significant damage.

LACK OF ENFORCEMENT OF EU ENVIRONMENTAL AND STATE AID RULES

Unlike its neighbours, Albania's energy sector is not a key contributor to air pollution, but larger cities are still polluted, among others due to transport dominated by cars, many of which are relatively old. Our respondents note that some projects are ongoing to address this issue, but action still seems to be at a relatively early stage.

'In transport, regarding the use of fuels, it is around 38 per cent of total consumption... And in the action plan for renewable energy up to 2020... we didn't foresee anything in this direction. So there is a lot to be done there.'

'We have a lot of problems with air pollution, especially in crucial cities like Tirana and other developed cities in Albania... This has been raised often, that the air pollution is very high in Tirana... but it does not mean that in other cities we don't have this problem... And there are as well some projects to measure the air [pollution] in the atmosphere, not only from government bodies. For example, the municipality has an application on their website for air [pollution] measurements. And as well the NGOs are making simple tools to measure the air pollution.'

According to the European Commission, Albania is at an early stage in compliance with air quality legislation, with monitoring stations not being maintained and work on local air quality plans not yet started.

During the interviews we did not focus on EU nature protection legislation, but it is clear that Albania is not adequately protecting its valuable habitats, as evidenced by the examples above of building hydropower plants in the Valbona National Park, failure to take decisive action to protect the Vjosa River and the latest legislative changes which decrease the area of protected areas.

'And now there are... on the way also large PVs that are being planned... And on the horizon,... also the wind farms, the big farms. But again, there are other challenges that these solar projects might face regarding the implications and the impact on the environment.'

Another issue is the lack of clarity about whether the further construction of hydropower plants under 2 MW mentioned above has really been stopped, as under the 2017 law on renewable energy mentioned above, these are still eligible to receive feed-in tariffs. This is not in line with the



EU's Energy and Environment State Aid Guidelines, which allow feed-in tariffs for hydropower only up to 500 kW, and premiums only for larger projects which are in line with the EU Water Framework Directive. These guidelines are obligatory under the Energy Community Treaty, but several countries have dragged their feet with implementation, providing a major driver for the continued construction of such plants.

REAL TECHNICAL DIFFICULTIES

One ongoing technical difficulty mentioned by our respondents is Albania's high electricity losses in the grid, mainly in distribution, which are steadily being reduced but cost a huge amount and result in artificially inflated demand.

'The technical and non-technical losses in electricity are too high (26 to 29 per cent), which costs Albania roughly EUR 200 million to EUR 250 million [per year].'

Our respondents highlighted the new Albania-Kosovo transmission line as a success not only of Albania's cooperation with its neighbours but also of helping the country to cover its supply during dry periods, thus helping to alleviate one of the ongoing difficulties for the sector.

Our respondents see technical difficulties mainly in more advanced energy transition with a high number of prosumers, but even in this field, some emphasised the need for an appropriate policy and legal framework more than actual technical difficulties.

'The energy transition is a long-term objective. It has its technical difficulties as it is still a centralised system. Energy transition will occur when we decentralise energy self-sufficiency and turn the users to producers of their energy.'

'The technical thing is when it comes to the capillarised or decentralised vision of energy production,... that can be a technical difficulty, but still not impossible to be overcome... What I mean by this is that each household, each consumer unit has to generate its own energy..., but to reach this, you can imagine how many difficulties may occur, not only because of technical [issues], but technical issues here are more relevant.'

WHAT IS NEEDED TO OVERCOME THE BARRIERS TO A SUSTAINABLE ENERGY TRANSITION IN ALBANIA?

WHICH ACTORS CAN PLAY A ROLE IN MOVING FORWARD THE SUSTAINABLE ENERGY TRANSITION IN THE COUNTRY?

Albania has a number of elements in place which should make its energy transition easier than for other countries in the region. At the same time, it has similar risk factors connected to corruption and low capacity by government bod-

ies to introduce the necessary changes. The horizontal needs which need to be pursued in order to enable better decision-making on energy issues are outlined below, followed by the different directions needed for a sustainable transition.

HORIZONTAL NEEDS

Albania's government needs to increase capacity by making sure all the people employed are sufficiently knowledgeable and that a sufficient number of staff is dedicated to this topic. This may be challenging given the often very new nature of the changes needed, but efforts should be made to draw on all the expertise possible. Investment banks and the private sector were considered by some of our respondents to be key actors in the energy transition, but still their actions need to be guided by the government's own strategy and plans.

'We are looking to... establish a renewable energy agency... This is positive, that the public authority wants to have it, at the highest level, and we have some experts. [It is not] that we don't have any experts at all. We have some for sure, and they are [looking] to make a renewable energy body competent with all the capacity. And with all the needs. Not maybe how it happened for the Energy Efficiency Agency that we started from the beginning and now it is possible [after] three, four years to put the first process in place.'

'I would stick to the... good expertise of preparing a functional strategy, but rather... action plans have to be realistic and have to be based on real good expertise. Then the political decision [makers] ha[ve] to be more adaptive and more ready to really sit down and hear the voice of science, and of experts. As soon as these pillars start moving in different directions, I see it is very difficult.'

'For instance, the big investment bodies like [the] IFC, like [the] EBRD or EIB or whatever, are stopping financing only the hydros but are financing a more balanced concept of getting energy. This is for sure something additional. But first, we need to have this balanced concept of energy, and this has to be prepared by the people who know how to do it.'

Much stronger action to apply the rule of law is needed. This is a much larger topic than the scope of this report but needs to involve demonstrating accountability of decision makers for their actions, clear follow-up on pledges made, and genuine public consultations on policy matters, particularly those with environmental impacts, for which public participation is guaranteed under the Aarhus Convention. The boycott of parliament by Albania's opposition after the 2019 elections has meant that one venue for holding the government accountable has not been functioning, so others have had to step in, such as independent experts speaking out, investigative journalists who can play a role



in revealing scandals and NGOs in pressing for action, but it is ultimately the institutions which need to step up their actions.

'...Albania is also a bit specific, especially in recent years when the opposition... is absent totally. And for sure the media's role is decisive here, and especially in investigative journalism. I'm talking here about plans, about strategies, about concessionary contracts that the government is signing, about all the important documents, and not only in the field of energy, but the same goes for the health care system, the environment, etc., etc.'

'[Investigative journalists can help by researching] corruption in energy-related concessions, corruption in energy-related auctions, unsolicited proposals in the energy sector, non-peer-reviewed unsolicited proposals, energy- and election-related concessions (illegal connections, payment).'

One respondent in particular pointed out that although investigative journalists are usually seen as a thorn in the side of governments, a more mature approach would be to understand their work as an aid to see where things are not going well and what to improve.

'I don't see the investigative journalists as only negative... – they are investigating but they... can help the government to identify what is... not going well... So, I think... all the issues of energy need more investigators and not only like in one day, for example, but to be constant, like a constant update, constant communication, to identify, to make analyses, not only in Albania, but to compare it... with other countries in the region to see where Albania is staying, why we are not improving.'

Much more public dialogue and inclusion of the public is needed to decide on energy transition and in particular to maximise the role of citizen energy. While it is the government that needs to adjust the legislation to enable this to move forward, NGOs and independent experts can play a strong role in ensuring this happens and communicating with the public.

'The very first step is to be a more democratic country, and this is the route. If you are democratic, by democracy I mean, that the decision makers would not always be the good old guys that we know, that they are only thinking of hydro and of corruption and of these sort of things. But open-minded decision makers can really assess and evaluate different perspectives and different projects and different alternatives... It's not an isolated field, you know, when we are talking about energy.'

'I think communication is important between the institutions, with the citizens to make them participate, and... the government bodies can be more open to welcome new projects, because sometimes... maybe they have knowledge, but maybe they need to be prepared as well to welcome this proposal for energy tran-

sition... Sometimes they are stuck... in the old way of producing energy... So they need to welcome this new approach as well...'

'We have to strengthen and above all, we have to push, about the communication and the cooperation among the stakeholders to make it a more inclusive process.'

In a decentralised, renewable-energy-based electricity system, appropriate spatial planning and nature protection is arguably even more essential than in a centralised one. Albania needs to do much more to provide real protection to valuable natural areas and to properly enforce the existing environmental legislation.

'We have to work... with... zoning for the development of renewables. We are doing it with wind, because very shortly there is going to be an auction opened for the wind priority process. Further, we have to build some comprehensive master plan about the least-cost development technologies. But for sure, in some way, capacity is not to be done like a report, how it is normally done, it is to be done by the person that knows them.'

MAIN DIRECTIONS FOR ENERGY TRANSITION

1. Halt expansion of unsustainable energy forms.

Albania's long relationship with hydropower may make it hard to let go, but the situation has long since passed the point where adding more hydropower has any added value. It is time for other energy sources, mainly solar and wind, to make their contribution.

'As soon as we are depending on one source only for getting the energy, we are also depending on the rainfall mainly, or on the water reserves for our energy production. And there are always difficult times, especially in the drought times, when the reservoirs of the large scale hydropower plants are almost empty. And we are obliged to import energy from the neighbouring countries.'

Similarly, Albania has an opportunity to leapfrog to a fully renewable and electrified heating and transport system. The arrival of the Trans Adriatic Pipeline in Albania must not lead to a lock-in of new gas infrastructure in Albania.

2. Redouble efforts to reduce electricity distribution losses and inefficient usage.

With more than a fifth of electricity being lost in the distribution network, this has to be the number one priority, as it not only creates additional pressure to build more generation capacity, but it also costs a huge amount of money that is needed for investment in other areas.

Energy inefficiency of buildings was also named as a priority by our respondents. Legislation has been passed for new buildings, but existing buildings remain a challenge.

'If Albania would increase the energy performance to a certain level like the central European countries are doing, then for sure this would have an immense impact on the environment, because that would mean a high number of at least small hydros to not be built.'

The common usage of electricity for heating in Albania is on one hand a great burden on the electricity system and on the other an opportunity to roll out greater use of heat pumps in the residential sector, which would use much less electricity and avoid the need for increased use of biomass or gas. Solar thermal water heating is even more of a low-hanging fruit that needs to be rolled out rapidly.

'There are sporadic initiatives from people that use solar energy to warm the water in their homes, let's say, or businesses, because they recognise the benefit that this source of energy has and they are using it for... heating the water. In Albania we have many sunny days..., so to heat the water from the sun is very easy and it is logical to use this energy and not electrical energy.'

3. Make the most of Albania's citizen energy potential and mobilise local authorities and businesses.

Large renewable energy projects are important, but there is a huge potential for Albania to benefit from citizen energy. Our respondents identified some concrete needs in relation to citizen energy, in particular regarding legal barriers and incentives. While the government clearly has the ultimate responsibility for changing legislation, renewable energy companies, experts, and those who have already implemented projects clearly have useful experience and proposals to share, which the local and national authorities should make more use of.

'When we... use this photovoltaic energy and we want to integrate it again in the system, in the grid... there are some problems... There are some things that still need to be adjusted from the legislative point of view that... everybody, every business, everyone can do this... But this is only on the policy level.'

'... The state needs to give [something]... to businesses or families to... make a boom at the beginning of these investments in energy efficiency or renewable energy. Because in the beginning, you need the amount of money if you are going to do this, so... some incentives from the state will be important to make people aware that the state is contributing, you are contributing for a good that is coming to you after X many years and you will understand it after it works.'

Knowledge barriers remain an issue, although our respondents say the situation is improving, and there remains a clear need to make sure people are better informed about citizen energy opportunities. Certainly more could be done by central and local governments on this issue, but there is certainly a role for NGOs, companies and

property-owners who have their own experience of setting up decentralised systems.

'Even the customers and users are going to see how to produce energy for themselves, to take measures for efficiency. And overall, we are going to see a shift from support, every kind of support, from the producer to the consumers. This is very positive, actually, because today it's not a problem to produce. Everybody can produce because it's normal, it's easy to do. The problem is to empower the consumers. And this is going to happen very shortly.'

'So, at least... even [if] we are not going to avoid... corruption practices,... problems, etc. ... we are going to put the best practices for sure and we are going to separate to make them smaller pieces, so we are going in some way to... start to build, to start [to make] the process more visible, [to make a] more positive circle to interrupt what would be considered a big concept.'

'The municipalities can do a lot of work in their cities, they have a lot of competencies. That can help the process.'

'Even if the people are aware, there is a lot of work to be done to [help] the people [understand] that the benefits are for [the] long-term.'

Businesses can and must play a key role in Albania's energy transition, as it is in their interest to invest in energy efficiency and renewable energy for their own use. This potential exists to a large extent, irrespective of whether or not the central government becomes more ambitious in its goals.

'There is a need just to make the mechanism more transparent, for example, for the deployment of renewables and less costly for the small producer, for self-producers or consumers.'

'We have to build the capacities, to empower the private sector, SMEs, entrepreneur capacities, starting from the school, the university, changing education, changing mindset, creating the customers.'

'Now, we have many start-up companies that are like a lot of start-ups. But after a while, after a little, they have to be developed, they have to be more mature. But I'm seeing that the approach is not coming at all after many years that they are working. So, we have to raise public awareness about the benefits of renewables. We have to enhance capacities and do human resources.'

4. Give higher priority to transport

Albania has an overall lack of public transport, which is a disadvantage in terms of energy usage, but it also means that there is very little lock-in of existing infrastructure, so

any investments being made (e.g. in railway rehabilitation or new buses) can go straight for electrified public transport. This would require better planning than at present, as our respondents mentioned that most initiatives so far are rather pilot projects, disconnected from one another, and not at a sufficient scale.

Non-motorised transport can also make a much greater contribution and some efforts are being made along these lines in Tirana and other cities, which should be continued and increased.

Electric cars can make a contribution and infrastructure should be provided, but expensive subsidies to buy electric cars that benefit mostly already relatively well-off car owners should be avoided.

'It has to be done through electric cars and electric buses. In this direction we are doing a lot in Albania because... it is working to do that, because... we have a very high price of fuels and very low... price of production of electrical energy.'

5. Make a plan to phase out oil production and ensure a just transition for the affected workers and communities.

This topic was not raised by any of our respondents, but in our opinion needs attention if it is to be addressed on time. We have seen across Europe how quickly the fall of coal has accelerated, often taking utilities and decision makers by surprise. Although transport decarbonisation is much less advanced and oil has many other uses, its time will also come in the next few years, and Albania needs to be ready.

ENDNOTES

- 1 Instat, Population in Albania, 1 January 2020; <http://www.instat.gov.al/en/themes/demography-and-social-indicators/population/publication/2020/population-in-albania-1-january-2020/>.
- 2 KESH, Drini cascade, last accessed 6 April 2021; <http://www.kesh.al/en/asset/drini-cascade/>.
- 3 Energy Regulatory Agency, Annual Report 2019, 42, 43, 45, 2020; https://ere.gov.al/doc/ERE_annual_report_2019_26102020.pdf.
- 4 National Agency of Natural Resources, Renewable Energy, 2019; https://www.ere.gov.al/doc/Raporti_vjetor_ERE_2018_perfundimtar.pdf.
- 5 Albania Energy Regulator, Annual Report 2018, 2019; https://www.ere.gov.al/doc/Raporti_vjetor_ERE_2018_perfundimtar.pdf.
- 6 Energy Regulatory Agency, Annual Report 2019, 2020; https://ere.gov.al/doc/ERE_annual_report_2019_26102020.pdf.
- 7 Law no. 7/2017 On the promotion of the use of energy from renewable sources.
- 8 Albania Energy Regulator, Annual Report 2019, 42, 2020; https://ere.gov.al/doc/ERE_annual_report_2019_26102020.pdf. Calculated from 190 minus the solar plants. The figures seem to include the Ashta plant, regulated under a specific contract.
- 9 Albania Energy Regulator, Annual Report 2019, 45, 2020; https://ere.gov.al/doc/ERE_annual_report_2019_26102020.pdf.
- 10 Albania Energy Regulator, Annual Report 2019; https://ere.gov.al/doc/ERE_annual_report_2019_26102020.pdf. Calculated from graph on p. 30 of the English version.
- 11 Albania Energy Regulator, Annual Report 2019, https://ere.gov.al/doc/ERE_annual_report_2019_26102020.pdf. Calculated from total consumption on p. 78 and priority producer figures on p. 137 without Ashta.
- 12 Ministerial Council of the Energy Community, Decision 2012/04/MC-EnC, 2012; https://www.energy-community.org/dam/jcr:f2d4b3b8-de85-41b2-aa28-142854b65903/Decision_2012_04_MC_RE.pdf.
- 13 Eurostat: NRG_IND_REN; https://ec.europa.eu/eurostat/databrowser/view/nrg_ind_ren/default/table?lang=en.
- 14 Climate Action Network Europe, Climate pledges in Southeast Europe: Analysis and Expectations for Paris, November 2015; https://caneurope.org/content/uploads/2016/05/CAN_INDcs-in-SEE.pdf.
- 15 Energy Community Secretariat, WB6 Energy Transition Tracker, 2nd Edition, February 2021; <https://www.energy-community.org/region-alinitiatives/WB6/Tracker.html>.
- 16 Albania Agency for Energy Efficiency, Fourth Annual Report under the Energy Efficiency Directive, June 2020; <https://www.energy-community.org/implementation/Albania.html>.
- 17 Energy Community Secretariat, Implementation Report 2020 for Albania, November 2020; <https://energy-community.org/implementation/Albania.html>.
- 18 International Energy Agency, Total energy supply (TES) by GDP, Albania, 1990–2018, IEA Data and Statistics, last accessed 1 April 2021; <https://www.iea.org/data-and-statistics?country=ALBANIA&fuel=Energy%20transition%20indicators&indicator=TPEsbyGDP>.
- 19 International Energy Agency, Share of total final consumption (TFC) by sector, Albania, 1990–2018, IEA Data and Statistics, last accessed 1 April 2021; <https://www.iea.org/data-and-statistics?country=ALBANIA&fuel=Energy%20consumption&indicator=TFCbySector>.
- 20 Albania Energy Regulator, Annual Report 2019, 95, 2020; https://ere.gov.al/doc/ERE_annual_report_2019_26102020.pdf.
- 21 World Bank, Energy Community, Western Balkans Investment Framework, Final Report – Biomass-Based Heating in the Western Balkans – A Roadmap for Sustainable Development, October 2017; https://www.google.com/url?sa=t&rcct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwin7rb35envAhX-5_7sIHZYnC9MQFjAAegQIAxAD&url=https%3A%2F%2Fwww.energy-community.org%2Fdam%2Fjcr%3A90fc8f31-e5d0-433e-b8ab-21e10b172d28%2FWB_Biomass_heating_102017.pdf&usq=AOvVaw3tM1DeP6VnWvWO3kCgepa.
- 22 Axel Reiserer, EBRD and EU support rehabilitation of Albanian railway, EBRD, 3 February 2021; <https://www.ebrd.com/news/2021/ebrd-and-eu-support-rehabilitation-of-albanian-railway.html>.

- 23 International Energy Agency, Oil, Albania, 2019, last accessed 1 April 2021; <https://www.iea.org/data-and-statistics/data-tables?country=ALBANIA&energy=Oil&year=2019>.
- 24 Reuters, China's Bankers denies abusing dominant oil position in Albania, 24 October, 2019; <https://www.reuters.com/article/us-albania-competition-crude-idUSKBN1X31UP>.
- 25 For more information, see CEE Bankwatch Network, Southern Gas Corridor, last accessed 6 April 2021; <https://bankwatch.org/project/southern-gas-corridor-euro-caspian-mega-pipeline>.
- 26 COWI, PIF, Gas Master Plan for Albania & Project Identification Plan – Gas Infrastructure Master Plan Final, Western Balkans Investment Framework, November 2016; https://www.infrastruktura.gov.al/wp-content/uploads/2017/12/WB11-ALB-ENE-01_final_GMP_2016_11_24.pdf.
- 27 Eurostat: Energy Dependence %, Table T2020_RD320, last updated 8 February 2021; https://ec.europa.eu/eurostat/databrowser/view/t2020_rd320/default/table?lang=en.
- 28 Eurostat: Energy Dependence %, Table T2020_RD320, last updated 8 February 2021; https://ec.europa.eu/eurostat/databrowser/view/t2020_rd320/default/table?lang=en.
- 29 Regional Cooperation Council, Sofia Declaration on the Green Agenda for the Western Balkans, 10 November 2020; <https://www.rcc.int/docs/546/sofia-declaration-on-the-green-agenda-for-the-western-balkans-rn>.
- 30 COWI, PIF, Gas Master Plan for Albania & Project Identification Plan – Gas Infrastructure Master Plan Final, Western Balkans Investment Framework, November 2016; https://www.infrastruktura.gov.al/wp-content/uploads/2017/12/WB11-ALB-ENE-01_final_GMP_2016_11_24.pdf.
- 31 Albanian Council of Ministers Decision – DCM no. 480 National Energy strategy for the period 2018–2030, 31 July 2018; https://www.infrastruktura.gov.al/wp-content/uploads/2018/11/Vendimi-KM_480_31.07.2018.pdf.
- 32 Energy Community Secretariat, WB6 Energy Transition Tracker, 2nd Edition, February 2021; <https://www.energy-community.org/region-alinitiatives/WB6/Tracker.html>.
- 33 Artan Rama, Albania: Concerns over Increased Number of HPP Concessions, *Exit.al*, 26 September 2019; <https://exit.al/en/2019/09/26/albania-concerns-over-increased-number-of-hpp-concessions/>.
- 34 Agjencia e Trajtimet të Koncesioneve, Regjistri i koncesioneve/PPP, last accessed 11 April 2021; http://atrako.gov.al/?page_id=112.
- 35 According to Council of Ministers Decision no. 822, 7 October 2015; <https://qbz.gov.al/eli/vendim/2015/10/07/822/801ea09d-674c-4aec-b9c2-8c9707958123>.
- 36 Artan Rama, Albania: Concerns over Increased Number of HPP Concessions, 26 September 2019; <https://exit.al/en/2019/09/26/albania-concerns-over-increased-number-of-hpp-concessions/>.
- 37 Ministry for Infrastructure, Përfundon procesi i skanimit, Bonati: Ndërpresim 27 kontrata për ndërtimin e 80 HEC-eve, 6 June 2019; <https://www.infrastruktura.gov.al/perfundon-procesi-i-skanimit-bonati-nderpresim-27-kontrata-per-ndertimin-e-80-hec-eve/>.
- 38 WWF Adria, Neither Green, Nor Clean – Albanian prime-minister admits that small hydropower plants are “useless and harmful”, 30 July 2019; https://www.panda.org/wwf_offices/wwf_in_europe/?351071/NEITHER-GREEN-NOR-CLEAN--Albanian-prime-m.
- 39 TOKA, Criminal Charges Filed Today Against the Falsification of Signatures of local inhabitants during public consultations in 2013, 5 March 2018; <http://toka-albania.org/2018/03/05/criminal-charges-filed-today-against-the-falsification-of-signatures-of-local-inhabitants-during-public-consultations-in-2013/>.
- 40 TOKA, The Battle for Valbona continues, 10 September 2018; <http://toka-albania.org/2018/09/10/the-battle-for-valbona-continues/>.
- 41 Nevertheless, the Environmental Impact Assessment for the Kalivaci plant was rejected, a decision confirmed by a court decision on 28 May 2021. Eco Albania, Court rejects Turkish company lawsuit against the Environmental Statement for the Kalivaci hydropower plant, 28 May 2021; <https://www.ecoalbania.org/en/2021/05/28/court-rejects-turkish-company-lawsuit-against-the-environmental-statement-for-the-kalivaci-hydropower-plant/>.
- 42 Artan Rama, Review of Protected Areas Reopens Construction of HPPs on the Vjosa River, *Exit.al*, 1 February 2021; <https://exit.al/en/2021/02/01/review-of-protected-areas-reopens-construction-of-hpps-on-the-vjosa-river/>.
- 43 Igor Todorović, Albania inks concession with Voltalia for Karavasta solar power plant, 4 August 2020; <https://balkangreenenergy-news.com/albania-inks-concession-with-voltalia-for-karavasta-solar-power-plant/>.
- 44 European Commission, Albania Enlargement Report 2020, 6 October 2020; https://ec.europa.eu/neighbourhood-enlargement/sites/default/files/albania_report_2020.pdf.
- 45 EcoAlbania et al., Protected Areas in Albania are threatened in order to pave the way for infrastructure projects, 20 March 2021; <https://www.ecoalbania.org/en/2021/03/20/protected-areas-in-albania-are-threatened-in-order-to-pave-the-way-for-infrastructure-projects/>.
- 46 European Commission, Communication from the Commission — Guidelines on State aid for environmental protection and energy 2014–2020, Official Journal of the EU, 28 June 2014; <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX-3A52014XC0628%2801%29>.



BOSNIA AND HERZEGOVINA





ENERGY SECTOR OVERVIEW

Bosnia and Herzegovina (BIH), with around 3.5 million people,¹ is currently the only net exporter of electricity in the Western Balkans. More than half of its installed electricity generation capacity is made up of hydropower, while most of the remainder is made up of five lignite power plants, at Tuzla, Kakanj, Gacko, Ugljevik and, since September 2016, Stanari.

Solar and wind are only advancing slowly, with two wind farms – Mesihovina and Jelovača – starting operation in 2018² and 2019³ respectively. Solar is so far decentralised, but in 2020 concessions have been granted for a 60 MW solar plant near Bileća⁴ and a 72.9 MW plant near Trebinje.⁵

Most of the electricity is generated by the coal plants, especially in dry years: generation levels hover around two-thirds coal to one third hydropower, depending on the hydrological conditions.

It should be noted that the graph shows generation, not consumption, which has fluctuated at similar levels for the last ten years and fell in 2019 due to the demise of the Aluminij Mostar factory.

BIH had a renewable energy target of 40 per cent by 2020 compared to 34 per cent of energy in 2009 – for total final energy consumption, not just electricity. This relatively high level is accounted for mostly by hydropower and wood use in households. In 2017 it reached only 23 per cent, partly due to poor hydrology, and in 2018, 36 per cent.⁶

Over-reliance on small hydropower to meet the 2020 renewable energy targets has been a key problem in the Western Balkans. In Bosnia and Herzegovina, the majority of concessions were issued to private companies as early as

2006, before BIH even had renewable energy targets. Once the targets were adopted, there was an assumption that hydropower would be sufficient to fulfil them. In reality, construction started very slowly, but in recent years it has picked up, causing increasing resistance in places like Fojnica and Kruščica.⁷ However, despite the damage, small hydropower has made a minor contribution to BIH's electricity supply – in 2019, it made up only 3.1 per cent of all electricity generated.⁸

Solar and wind were initially considered expensive, but as prices have dropped, BIH has been slow to take advantage. There are now hopeful signs that favouritism towards small hydropower is now being addressed in the Federation, but as of May 2021, this is not yet the case in Republika Srpska.

A notable feature of BIH's energy system is inefficiency. Energy prices are kept artificially low for end consumers and there is therefore limited incentive to make savings. The country is more than four times as energy-intensive as the average in EU countries and has the highest energy intensity in the Western Balkans.⁹ The residential sector is responsible for the highest share of total final energy consumption and has high potential for improvements.¹⁰

The most common forms of heating for individual houses are wood and coal. Larger towns and cities in BIH have district heating systems – some combined heat and power and some heat-only. However, these do not provide hot water. Pricing is not usually cost-reflective, and is usually calculated on the basis of floor-space rather than consumption.¹¹

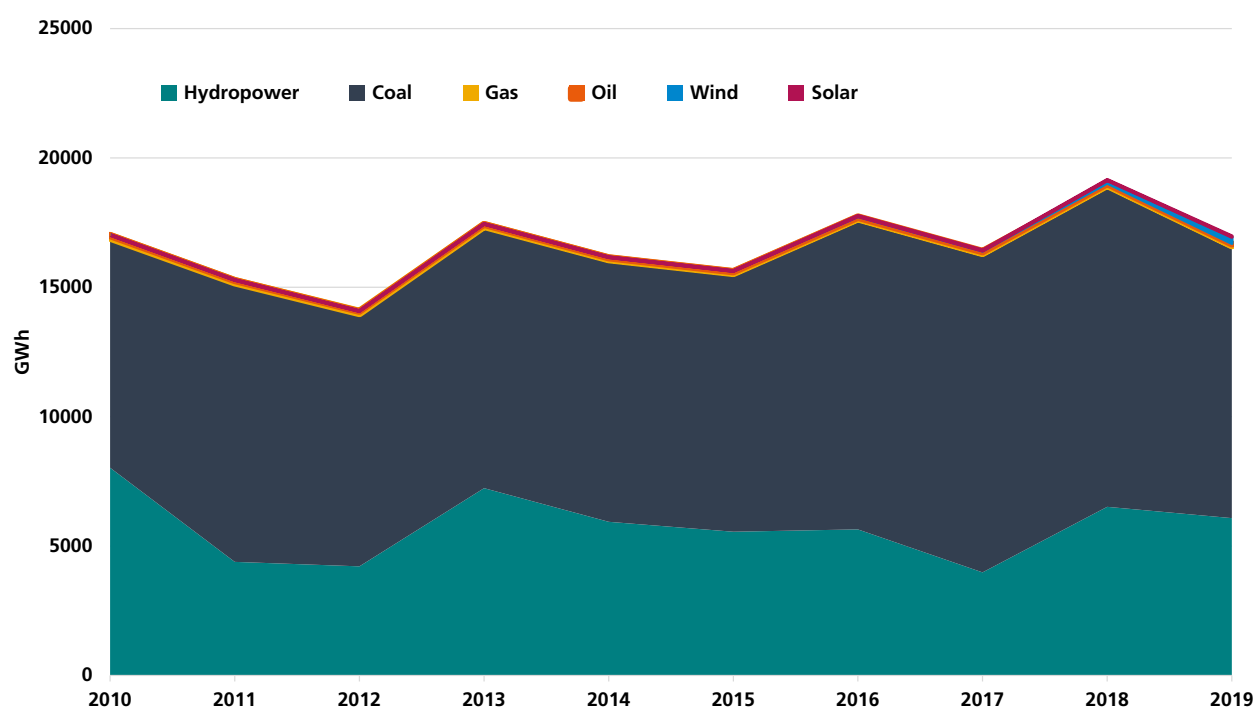
Data on transport in BIH is scarce, with no Eurostat statistics available on modal split.¹² However, it is clear that private road transport predominates for both passenger and goods transport. Public transport consists mainly of buses and coaches, and the rail system is neglected.

Table 1
Installed capacity of electricity generation facilities in Bosnia and Herzegovina, 2019

Energy source	Installed capacity, 2019, MW	Per cent
Hydropower total	2,239	49.7
<i>Of which is less than 10 MW</i>	162	–
<i>Of which is pumped storage</i>	420	–
Lignite	2,156	47.8
Wind	87	1.9
Solar	22	0.5
Biomass	1	0
Biogas	2	0

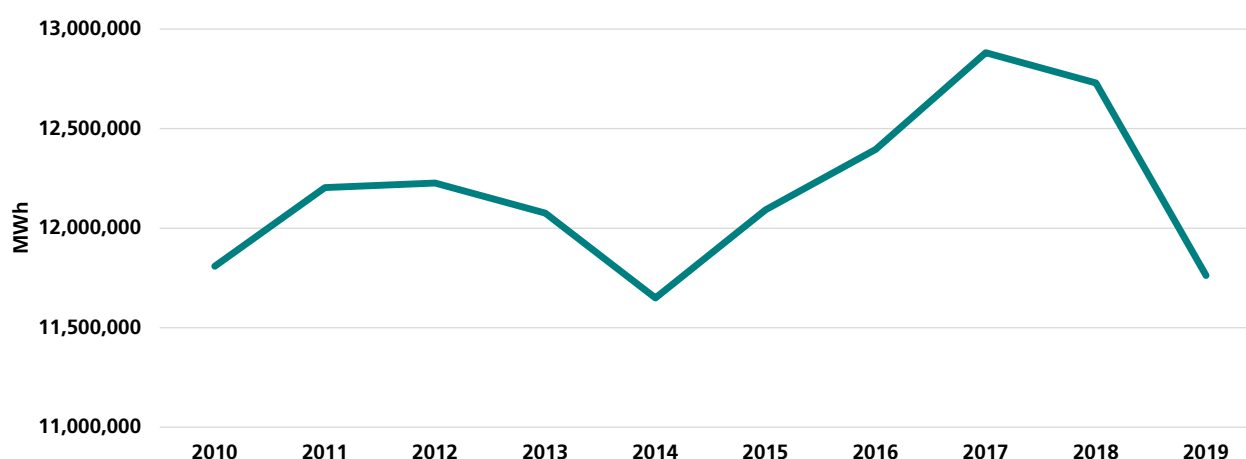
Source: State Energy Regulatory Commission (DERK), Annual Report for 2019, <https://www.derik.ba/DocumentsPDFs/DERK-Izvjestaj-o-rad-u-2019-b.pdf>

Figure 1
Electricity generation in Bosnia and Herzegovina, 2010–2019



Note: Sources mentioned here but not in the DERK annual report regarding installed capacity are from industrial facilities generating electricity.
Source: IEA Statistics, <https://www.iea.org/data-and-statistics/data-tables?country=BOSNIAHERZ&energy=Electricity&year=2019>

Figure 2
Electricity consumption in Bosnia and Herzegovina, 2010–2019



Source: NUSBIH, Indicative Generation Plan for 2021–2030, April 2020, p. 19

Regarding energy resources, BIH mostly uses its own lignite from several mines across the country. These are mostly open-cast, but some of the mines owned by the Federation of Bosnia and Herzegovina's public utility *Elektroprivreda BIH* are underground. According to research carried out by Bankwatch in 2018, *Elektroprivreda BIH*'s mines are the least labour-efficient in southeast Europe, while those owned by *Elektroprivreda Republike Srpske* (ERS) are the only ones in the region where employment levels are not falling.¹³

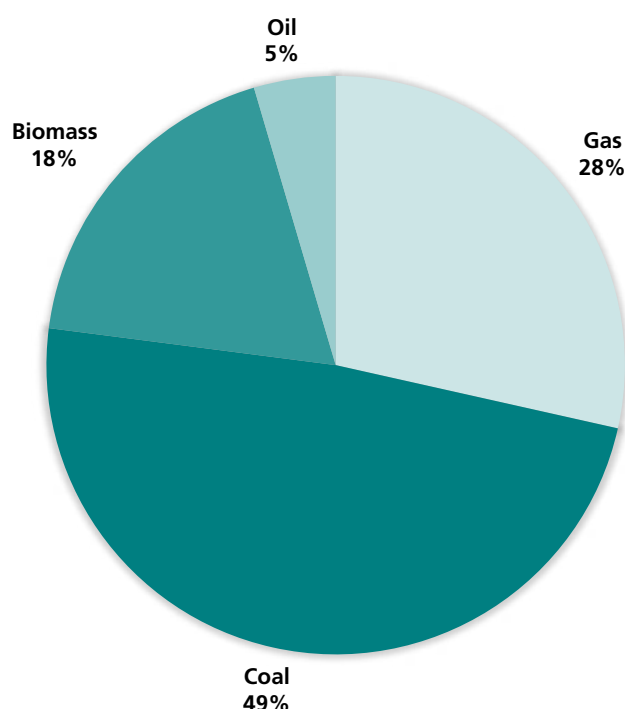
BIH does not have its own natural gas extraction – although it is trying to attract companies for exploration and produc-

tion¹⁴ – 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. As for oil, the Brod refinery on the Croatian border imports crude oil via the Adriatic oil pipeline JANAF.

Despite the import of oil products and gas, Bosnia and Herzegovina's energy dependence – 24.2 per cent in 2018 – is low compared to the EU-28 average for the same year of nearly 56 per cent.¹⁵ This is due to its use of domestic sources for electricity generation and its low use of gas.



Figure 3
District heating in BIH by fuel, 2019



Note: Sources mentioned here but not in the DERK annual report regarding installed capacity are from industrial facilities generating electricity.
Source: IEA Statistics, <https://www.iea.org/countries/bosnia-and-herzegovina>

BOSNIA AND HERZEGOVINA'S ENERGY STRATEGY AND PLANS

Most decision-making power in BIH is concentrated at the Entity level, but in 2018 a state-level energy strategy was adopted.¹⁶ Bosnia and Herzegovina has in the last few years had an unprecedented opportunity to turn around its energy sector, as its existing coal plants are mostly extremely old, thus opening space for a change of direction when considering what to replace them with. One new lignite plant, Stanari, started operating in 2016, thus making a coal exit more complicated and costly; however, for the majority of the country's generation capacity, all options should still be considered open.

Unfortunately the opportunity to turn BIH's energy sector towards the future was not seized, as none of the four scenarios outlined in the strategy will 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 deferred to future processes such as the development of the National Energy and Climate Plan, which is currently ongoing.

Even at the time it was adopted, it was clear that these scenarios were not realistic in terms of timeline, as the construction of a new coal power plant needs around four

years even after the start of works, and none of these plants have started construction yet.¹⁷ Only Tuzla 7 is close to starting construction, while the other plants listed are either in the early stages of planning or have suffered serious setbacks.

Due to the lack of clear strategy, in reality large energy investment projects are mainly planned project by project, and little prioritisation appears to take place. This can be seen in the unrealistic number of new coal plants in the table above, but also in BIH's plans for a large amount of new hydropower capacity. It has been unsuccessful in building large plants in recent decades but is currently pushing controversial plants on the upper Drina,¹⁸ upper Neretva,¹⁹ and the Dabar plant²⁰ as part of the Gornji Horizonti project dating from the 1950s, all involving Chinese companies.

In April 2021 Bosnia and Herzegovina submitted its updated Nationally Determined Contribution (NDC) to the UNFCCC. The NDC²¹ and accompanying low-carbon development strategy are incompatible with the EU's 2050 carbon neutrality goal as they envisage greenhouse gas cuts of only 50 percent by 2050, instead of the full decarbonisation that the EU has committed to. Moreover, they include 1050 MW of new coal capacity, but only 100 MW of solar capacity by 2030.²²

As of May 2021, Bosnia and Herzegovina is currently developing its National Energy and Climate Plan (NECP), which will set a greenhouse gas emissions reduction target, a renewable energy target, and an energy efficiency target for 2030. So far no draft is publicly available.

Plans for transition in the heating and cooling sector and transport sector are in their infancy, but are so far relying on rather outdated and environmentally problematic solutions such as extending the use of coal (eg. in Tuzla), increasing the use of biomass in district heating instead of coal, increasing the use of biofuels in transport, and building new gas import routes to ensure a more secure supply. For example, the Southern Interconnection route being proposed from Croatia is promoted as leading to the gasification of cities like Mostar and Tomislavgrad,²³ which would displace renewable electricity²⁴ and biomass more than other fossil fuels. More innovative and environmentally acceptable solutions such as heat pumps and solar water heating are not systematically promoted and are largely neglected in strategic documents.

WHY IS BOSNIA AND HERZEGOVINA'S ENERGY TRANSITION NOT ADVANCING MORE QUICKLY?

STATE CAPTURE BY INCUMBENT PUBLICLY-OWNED UTILITIES, LACK OF TRANSPARENCY AND RULE OF LAW

'There is a lack of enforcement of each and every law in Bosnia and Herzegovina. Because if something is done for the benefits and profits of state-owned companies – they call them strategic companies – that are in the hands of the ruling parties, there is no law which will be implemented to stop that... It's not just EU rules, it's even the Bosnian legislation. If it's not beneficial for these companies and the political parties which are running the show, these laws will not be enforced.'

As shown above, energy planning in BIH largely revolves around a set of large coal and hydropower projects mainly pushed by the publicly-owned utilities, most of which have been planned for decades already. It is difficult to pin down the extent to which the lack of willingness to revisit the justification for these projects is simply a result of inertia and lack of imagination, and to what extent specific interest groups stand to benefit personally from pushing these projects.

What we can say without a doubt is that decision makers in the Ministries and other bodies are not doing well enough in critically examining the need for projects, their economic justification, or their compliance with the law. The parliaments are not always consulted (e.g. on strategic documents) and when they are, they do not always hold the governments sufficiently accountable. To name just a few examples:

- The concession-holder for the planned Ugljevik III coal power plant, Comsar Energy, failed to fulfil the terms of its concession – a fact confirmed by the Republika Srpska Concession Commission.²⁵ It has not secured a contractor or financing for the plant. Yet instead of

cancelling the contract, the Republika Srpska authorities allowed the company to start a new environmental impact assessment process in 2019, for a plant even larger than that stipulated in the concession.²⁶

- In 2019, Elektroprivreda Republike Srpske's (ERS) subsidiary Hidroelektrana Buk Bijela d.o.o. was allowed to apply for an environmental permit for the Buk Bijela hydropower project on the upper Drina without carrying out a new environmental impact assessment, despite the fact that the original study carried out in 2011 was outdated, of poor quality, and did not adhere to the requirements of the latest version of the Environmental Impact Assessment Directive that is binding for energy projects in BIH under the Energy Community Treaty.

Moreover, Montenegro had declared its interest in participating in the environmental impact assessment process under the Espoo Convention on the assessment of transboundary impacts, yet the Republika Srpske authorities ignored this request and awarded the project company an environmental permit.²⁷

- Both Houses of the Federation of Bosnia and Herzegovina's parliament voted in favour of granting a loan guarantee for EPBIH's new Tuzla 7 coal power plant even after clear warnings by the Energy Community Secretariat that the guarantee is in violation of the Treaty's State aid rules.²⁸ The feasibility study for the project was not available to the public. However, once it was leaked, it showed that the assumptions used for the calculation were completely unrealistic, both in terms of coal price and CO₂ pricing.²⁹ This is likely to render the plant a burden on public funds, yet there have been no visible reactions from decision makers.
- In 2019 the National Assembly of Republika Srpska voted to allow the entity to guarantee loans for the Buk Bijela dam project,³⁰ yet to the best of our knowledge even to this day no feasibility study has been carried out for the project.³¹

The issue of dominance by incumbents and others close to the governments seems to be largely self-reinforcing, as permitting procedures are cumbersome but their corners can be cut for those favoured by the governments, whereas new investors are often put off.

'...[T]he institutional framework is obviously a very, very big obstacle, and the only way to go through that obstacle is to go through corrupt pathways and you know who are the people who are prepared to go through those avenues. For example: 10 to 15 years ago "Company X"³² was in Bosnia-Herzegovina... looking for new renewable energy projects... After five years they closed the office... I was in contact with the... people from the company and discussing with them. They just said, "No, this is not honest. This is too complicated and too corrupt, too much red tape".'



Likewise, because planning is often done as a technical exercise, usually by hired consultants, mainly compiling the existing plans of energy utilities, there is very little evaluation of past decisions, or analysis of what has worked, what has not, and what needs to be changed – an issue our interview respondents highlighted.

'One of the big problems is lack of transparency. In this country it is very hard to get any complete information about anything, especially when we are talking about the energy sector... For example, for energy efficiency, I could not get the most important information, which is: what are the results? When you have that kind of situation, then you are not in the situation where you could prepare any good decision for the future. If you don't know what are the effects of the actions which you have done...'

OUTDATED VIEW OF THE ENERGY SYSTEM AND LACK OF UNDERSTANDING OF THE SPEED OF CHANGE

Bosnia and Herzegovina's energy planning has started to take on vocabulary reflecting trends in the EU and further afield, such as 'decarbonisation', but without truly taking on board the extent and speed of changes needed in reality.

The types of action proposed in BIH's energy strategy and draft low-carbon development strategy are those which might have been considered appropriate 15 or 20 years ago, such as reducing greenhouse gas emissions by building newer, more efficient coal plants, but which can no longer be justified, either in climate terms or economically.

It is often argued³³ that BIH, not being a large or rich country, does not need to reduce its greenhouse gas emissions to the extent that the EU or other developed countries do. But arguing from the point of view of what is fair misses a) the opportunities that transition brings for a less polluted and healthier society, as well as for more democratic control of energy generation via prosumers and other decentralised models, and b) the economic reality that BIH needs to undertake a transition for economic reasons, and if it does not do so more quickly than it is now, it will incur higher costs.

The EU is designing its policies to push countries towards transition using a combination of instruments like targets but also economic instruments like CO₂ pricing, so countries like Poland³⁴ or Greece, which for a long time persisted with the idea that they could continue building new coal plants, have recently had to make very rapid changes, with Greece even announcing a coal phase-out while in the middle of building a new coal plant, Ptolemaida V.³⁵

As well as a lack of acceptance of the scale of greenhouse gas emissions cuts needed, decision makers in Bosnia and Herzegovina have shown a lack of willingness to move away from the model that they are already familiar with –

a predominantly centralised model in which BIH concentrates on maximising generation, including for export, based on traditional sources of power – mainly coal and hydropower.

Even when the need for change is accepted, it is often reflected in trying to stay as close to the current model as possible, e.g. by replacing coal district heating by biomass, rather than maximising building retrofits and exploring whether other sources such as geothermal, interseasonal storage or decentralised heating would make more sense under today's conditions.

A major concern among decision makers has been the impact of intermittent renewables on the grid, which is explored in more detail below under the section on regional cooperation. Certainly balancing high percentages of renewable energy on the grid requires coordination and functioning markets, but BIH is not yet at the stage where it would pose significant problems, and the issues are far from insurmountable. It is hard to escape the impression that the issue is more inertia, political unwillingness to switch to an open energy market due to the price impacts, coupled with outdated perceptions on the cost of solar and wind, which are perpetuating decision makers' reluctance to speed up solar and wind development.

Certainly our respondents agree that relevant expertise and awareness among experts exists in the country, but decisions on the political level are responsible for putting the brakes on forward progress or misdirecting resources towards unsustainable solutions. This also results in a situation where the public is not well informed and is receiving mixed messages.

'Lack of knowledge, no, I'm sure that they're fully aware, at least the experts working for the energy sector are fully aware of the changes that are happening in Europe and the transition that's happening in Europe. But it is the politicians which are blocking this knowledge.'

'[The] governments don't know what is going on... around them. They think that they could continue with this concept for the next 50 years, and always when you ask them, "Okay, but all the world is going to another concept", the answer will be, "What about Poland?" But Poland already started to change its approach. This means they really don't know what is going on. One of the big obstacles is lack of knowledge. Everywhere... We are talking about government, we are talking about parliament, we are talking about businesses, ... we are talking about local communities. There is a lack of knowledge in the general sense, and of course in a specific sense... A lot of people think renewable energy is a good thing. But they have a problem with what is happening with small hydro in the country and now they are suspicious if this will happen not only with small hydropower. They are just a little bit confused – from one side they know that it's good but from the practical experiences they have..., they are scared.'



'[I]t's some kind of traditional thinking of our governments that the current system will last forever and that coal is, traditionally, our most significant resource. Also, there is a lack of knowledge and lack of capacity, not only of institutions, but different consultants and experts from this branch that could actually accelerate and improve our electricity system here... So, the problem is that the lack of capacity of the institutions to deal with this issue, especially in climate change, is a really big challenge, but not as big as the lack of will and the ambition of the government to actually turn to an energy transition...'

'Outdated concept, yes, specifically in resistance to the market orientation, no competition. Our players, economic players, don't like competition, so they are not prepared for that and they resist it. And both technical professionals and the decision makers are ignorant. Evidence is clear both regarding renewable energy sources and the inevitability of introduction of emission trading systems. And what they quote recently is it will be in 2034, I don't know how they calculated that. They just don't follow what's happening. They don't follow the dynamic in the European Union. We are trying to explain to them, look, the European Union has just changed from 40 to minus 55 per cent [GHG emissions reductions]. Do you understand what that means? The policy will change. So ignorance – not just lack of knowledge. Ignorance of the evidence.'

'One of the big obstacles is that that subject is not on the public agenda. And it's not really communicated in society... what that means for the present and for the future. Because things are going so fast, and everybody is thinking we are talking about 2050. No, we are talking about 2030, which is 10 years from now, which in the energy sector is like tomorrow. And there is no real public awareness about that, which could be the big obstacle. If that is closed – just for technicians, politicians, economists and so on – I don't think that could be successful, and I see that as a real big issue.'

INCOMPLETE TRANSPOSITION AND IMPLEMENTATION OF EU RULES AFFECTING THE ENERGY SECTOR

As mentioned above, the existence of unified EU rules guiding the energy sector means that certain policy options, like building new coal plants – or even operating existing ones in many cases – are becoming uneconomic simply because they are increasingly forced to pay their external costs, by installing pollution control equipment and paying for CO₂ emissions.

Some of these rules are transposed into BiH legislation under the Energy Community Treaty, such as the Large Combustion Plants Directive, which is now superseded in the EU, or some of the EU provisions on State aid, but are not enforced. A very obvious example is the ongoing breaches

of the Large Combustion Plant Directive by BiH's coal plants, which in 2019 breached their sulphur dioxide ceiling by no less than 8.5 times,³⁶ or the Tuzla 7 Federal guarantee mentioned above, in which Bosnia and Herzegovina was clearly warned in advance by the Energy Community but stubbornly persisted in issuing the guarantee.

These flagrant breaches reflect the lack of consequences for countries flouting Energy Community rules – an issue raised by our respondents as well.

'I don't see this as a powerful and urgent enough mechanism to show our decision makers that we need to turn the politics, turn the page. So definitely there is a lack of effective mechanisms for our country. I mean, even through funding – for instance, [Instrument for Pre-accession Assistance] funding – there should be some kind of a barrier that we shouldn't get the money until we really show ambition in regards to decarbonisation dates, for example.'

'[T]he National Emission Reduction Plan is very clear. It's clear that no country in the Energy Community is fulfilling apart from Montenegro. And so what happens? They are... warned. So, that's a problem with the Energy Community. I mean, they have no leverage... [P]robably, they don't have the leverage because Brussels doesn't let them have that leverage in their statute.'

However, many key provisions are not yet binding in the Energy Community, including the Emissions Trading Scheme, the Air Quality Directive, and Chapters II and IV of the Industrial Emissions Directive, which would more strictly regulate pollution from thermal power plants and waste incinerators. These would have to be approved by the Ministerial Council, but the first step is for the European Commission to formally propose them.

LACK OF POLITICAL COURAGE TO CLOSE COAL MINES AND TACKLE JUST TRANSITION

Employment trends in BiH's coal sector differ between the entities. In Republika Srpska, employment in the mines and coal plants overall increased between 2013 and 2018,³⁷ especially in election years, making it hard to escape the impression that new workers are being taken on for political reasons rather than because they are needed.

In the Federation of BiH, Elektroprivreda BiH steadily decreased the number of workers in its mines between 2010–2017, but the company's projections about how much of a reduction in the workforce are needed also appear unrealistically low, while its mines have among the lowest productivity in the region.³⁸

Employment issues and the social impacts of energy transition elicited the most unified response from our respondents. All agreed that the issue is more one of political will than anything else.



'When you talk with the people, they will tell you that it's a huge problem. When you go on the ground, you will see it's not a huge problem. Why? The first thing is that when we are talking about coal miners, maybe we have 3,000. All others employed in coal mines are not miners. The 'miners' in the Federation are... employed by politics. That's the main resistance. Coal mines are used as political tools, and they use them as places where they could use their guys to have some salary. That's the reason why resistance is so high. Not coal miners, but people which are employed in coal mines... We are making the problem bigger than it is really. They are using that because they are state companies, they are using it to employ, [and the] bill is paid by everybody.'

'These utilities are – how do you call it – the golden goose for the ruling party, they are in their hands, and it's something they've been using for the last 25 years. They got millions out of that and they got a lot of political benefits out of that, why would they change it? No. As long as it lasts – once it goes to bankruptcy, then they'll just pull out and say we didn't have anything to do with that.'

'Of course, that's the number one problem in any sector, especially the electricity sector, where we have various and big state facilities – meaning that they hire thousands of employees and actually about fifteen thousand people work for the coal sector in Bosnia and Herzegovina. And this is the monopoly that I talked about – that they are using these electricity production utilities and distribution utilities as a voting body for elections – local or national elections... They are the voters and these are artificial working places in the coal sector, which represent a big burden also for the whole budget of the country...'

'[M]iners understand that there is no future, there is no long-term future in the sector. And the lack of courage to tackle the issue is on the political side, because they don't understand how to do it. I wouldn't say that there is no money, because the subsidies that are being spent are such a big amount of money that probably just transition might have already been started. So, the pressure from coal mining unions is natural, it's short-term, it's, you know, give us the salary, we are doing our job and it's like everywhere in the world, or let's say everywhere in Europe. What is the problem, they don't understand the concept of coal phase-out, just transition, and the good information is that finally the secretariat for the Western Balkans and Ukraine on just transition will be established from the new year. At least information will come.'

LACK OF POLITICAL WILL TO COOPERATE WITHIN BIH AND THE REGION AND TO OPEN MARKETS

Electricity networks with a high share of variable renewables need to be well interconnected, with functional markets, so that the power can be moved efficiently to where

it is needed. Although the countries of former Yugoslavia are relatively well interconnected physically, market opening is going slowly, presumably due to a fear of having to deregulate energy prices, which would lead to higher per-unit prices and potentially overall higher consumer prices if not accompanied by assertive energy efficiency measures, particularly for those customers using electricity to heat their homes.

This fear of market opening and reluctance to cooperate is accentuated in Bosnia and Herzegovina due to the political divisions within the country itself, but also because of BiH's current position as a net electricity exporter, which decision makers see as a strength that should not be jeopardised.

'The first problem in Bosnia is that we are not cooperating within Bosnia. Three big state owned companies, which are not cooperating between each other, then you could imagine how they will cooperate in the region.'

'In the Federation of Bosnia and Herzegovina you have two parties, two ruling parties, and they have divergent political perspectives on energy transition. Because two electro-power companies that they are in a way controlling have different starting positions... So, no consensus on the future and no consensus on how to reach that future... No political consensus on how to make this country functional, and in a dysfunctional country the risk for capital is very high and that impedes energy transition.'

'They really don't recognise regional cooperation as an opportunity. They see that as mainly a threat, because we are exporters, the only exporter in the region. Maybe they think if they cooperate they will lose the ability to export.'

'[T]hey always say that we need to think of our own resources (of course, mentioning coal is our main resource) and that we, as different countries, especially in the region, have different potentials and different situations... And when we say that we can achieve a lot through regional cooperation and regional interconnectedness of the electricity system and distribution system, politicians are not really much turned to this as a solution, although this is one of the basic pillars of the energy transition – this interconnectedness and cooperation between different countries in the region regarding electricity production and exchange of electricity... There is no political will for cooperation in terms of energy... The only thing the politicians want to actually do is to sign a lot of agreements and memorandums of understanding in the four years while they are actually ruling.'

'There is no political will to cooperate. There are three reasons for that. Every country in the region would like to be a hub, and to have rents, and how do you get rents? From your first neighbours. Then in every country in the region, including Croatia and even Slovenia,

there is this concept of national security of supply objective, or very narrow energy independence. So, when you say that there should be trade and exchange of energy, that's not clear to the politicians, probably due to the not-so-recent – but still in the minds of people and the memory, recent – history of the conflict.'

One of the results of BIH not having adopted market rules is that for years, wind connections were capped at 350 MW due to concerns about balancing their intermittent impacts on the grid.³⁹ During 2019 this was increased to 460 MW of wind power plants and 400 MW of solar photovoltaics,⁴⁰ and in 2020 to 840 MW of wind power plants and 825 MW for photovoltaics.⁴¹ BIH is currently far from having this much solar or wind installed, but there are a number of projects in the pipeline, particularly for wind. However, the key to resolving this barrier is mainly connected with introducing market rules to the energy sector which would enable the benefits of network connections to be truly realised.

LACK OF PARLIAMENTARY INVOLVEMENT AND LEGAL FRAMEWORK FOR ENERGY DEMOCRACY

Another issue to which respondents drew our attention is the lack of parliamentary involvement in decision-making on energy issues. This is a larger issue which affects much more than the energy sector, but this lack of checks and balances certainly affects the quality of decision-making and selection of projects. One of our respondents highlighted his views on how energy sector decision-making is done in BIH and across the region.

'Look at the region, there is no discussion in the parliament about this. Everything is being decided on the level of governments,... companies,... banks,... international donors and the European Union. So, I would say that a big obstacle is a lack of parliamentary involvement in the process. That was not the case 10 years ago. It has been the case in the last seven-eight years... It was clear what the vision was 10 years ago... And there was a vivid discussion...'

'And now you have a complex issue, a very complex issue, no clear vision and incompetent members of the parliament. And of course, you have a general tendency in the region that... all major decisions that should be made in the parliaments are made prior in the headquarters of political parties and in coordination with international actors.'

Another important tool for gaining public support for energy transition is enabling prosumers and energy cooperatives. There are now provisions in the EU legislation requiring this, but it is also worth mentioning here due to its potential for bringing direct benefits to households and small businesses, which in turn helps to increase the level of public interest in, and support for, energy transition.

'[W]e see a lot of different projects developing, even though there is not yet a legal framework for some of them, because in different entities, for instance, you can legally become a prosumer in one entity and in the other you can't. This is something that's kind of a barrier to decentralisation of energy. In addition, in one entity you can legally establish an energy cooperative and the other one you can't, which is confusing. The legal framework for individual energy projects is not the same, and people are not really well introduced to starting and implementing these projects...'

TECHNICAL DIFFICULTIES

All of our respondents agreed that technical adjustments and investments will need to be made in order to move energy transition forward, but that this is more a question of political will than an insurmountable barrier. As outlined above, many of the apparent limitations on achieving higher shares of variable renewables in the grid are related to market opening, and only to a lesser extent to physical infrastructure.

'If there was a serious commitment of the authorities to do the energy transition, the technical difficulties could be overcome. You know, it's a question of prioritising the actual investments. If you have a serious plan to transition the energy system, you go by energy efficiency, smart grids and then you invest in the sources, or you subsidise sources, there is a way to do it, so technically everything is possible. The question is, do they want to do it or not? And I'm sure that there would be money available for this if there was a political will to go in that direction.'

'The only technical issue which is important is... regional cooperation for balancing capacities, storage, that kind of thing.'

'[T]he electrical grid needs to be improved and invested in, so it can actually accept more electricity, especially from renewable energy sources such as wind power plants and solar power plants... You can solve this issue with just good planning and finding investors – finding funds for investment in grid development. We don't see this as a barrier, just that we need to improve our current electricity system. And also something that we need to work on is the storage of electricity and the potential for energy storage using different spaces, old mines etc. ...'

However, as one of our respondents also pointed out, there is a need not only for physical infrastructure improvements but also systemic infrastructure for education, research and innovation, which needs to be designed according to local needs.

'We don't have a set-up research, development and education system for technical professionals, meaning also economists, for the modern digitally based, market oriented energy sector... The human factor will be critical, I mean, the knowledge and the skills will be key. Innova-



tion, new mechanisms, innovative business models. And you cannot copy Denmark and Sweden. I mean, you have to develop your own and no one will come to you and develop models that are in your interest. If someone comes, they will develop models which are in their interest.'

WHAT IS NEEDED TO OVERCOME THE BARRIERS TO A SUSTAINABLE ENERGY TRANSITION IN BIH? WHICH ACTORS CAN PLAY A ROLE IN MOVING FORWARD THE SUSTAINABLE ENERGY TRANSITION IN THE COUNTRY?

The three overall directions which need to be covered are outlined below, together with different steps necessary to achieve them and an outline of which actors could play a particular role. However, there are also a number of horizontal needs which need to be pursued in order to build the necessary governance structure for better decision-making on energy issues, which are also outlined below. All these need to be pursued simultaneously, as even with the current governance deficiencies, some steps forward can and are being made.

HORIZONTAL NEEDS

- Institutional planning and management capacity needs to be improved. Technical assistance to Bosnia and Herzegovina should concentrate less on preparing strategic documents, and more on capacity building to develop them, widely consult them, and manage and monitor their implementation. This would lead to more ownership of the plans by institutions, as well as better quality plans achieved through wider consultation.

'Plans must be flexible and should be our plan – our institutions, not even local experts. Institutions.'

- Greater scrutiny on government decisions needs to be exerted by BIH's parliaments. Support and guidance can be provided by independent experts where parliamentarians lack expertise.
- Much stronger enforcement is needed of EU legislation already adopted under the Energy Community Treaty, including on market opening, State aid and environment. The Energy Community Secretariat is active on this but needs more tools at its disposal, e.g. ex ante notification and investigation powers on State aid cases, and more support from the European Commission.
- Donor support such as IPA funds are very much needed for energy transition, but must be clearly and transparently conditioned on making real progress.

'That's where I see a chance. Basically, Europe should take the lead role in the whole thing and seriously start pressuring our authorities and push for transition in-

stead of being diplomatic and saying: "It has to be decided by your politicians, we cannot impose anything." Yeah, but you're giving them money!'

- Increased public dialogue on the energy transition needs to take place, to increase public understanding of, and involvement in, the process.

'So, I would like to see as next steps that we really open up the debate, where we participate as equal partners, let's say, within regional fora, the RCC [Regional Cooperation Council] or Energy Community. We've identified the problem with the ongoing systematic involvement of the experts, and that's why we set up the think tank RESET. There has to be a written narrative, ideas, concept, policies, measures that will challenge official positions, official narratives, official concepts, official ideas.'

MAIN DIRECTIONS FOR ENERGY TRANSITION

1. Prevent lock-in of inflexible unsustainable technologies, mainly new coal power plants and gas pipelines, and ensure legal compliance and timely closure of existing coal plants.

Setting a decarbonisation date, and especially a coal phase-out date, would help to concentrate minds. Given the strong push for new coal power plants still ongoing, this is not likely to happen without a strong push from experts, civil society groups and the international community.

Civil society needs to continue making the case for a coal phase-out publicly, and to convey both the need for it and why it is ultimately something positive. Experts need to help decision makers and utilities understand how a coal phase-out can work and why it is to their advantage to do it sooner rather than later.

'The key is how to get public utilities to be aware of what's their future. We are trying to tell them the stories of German companies, RWE, E.ON, which means, what are the consequences of being late to transition?'

Donors such as the EU have more tools at their disposal, notably funds, whose leverage needs to be used to maximum effect. There is a lot of sensitivity around being seen to impose conditions around donor funding; however, it is a matter of credibility. If the EU provides funds for the development of a strategy, it only makes sense if that strategy is in line with EU policy. If the EU provides funds for just transition, it only makes sense if the country is not building new coal power plants and has committed to actually close existing ones.

As well as a decarbonisation date, ongoing work to prevent new projects which are incompatible with decarbonisation and to bring existing plants into legal compliance needs to continue. This is generally a combined effort by



NGOs carrying out legal and advocacy work, experts showing why these projects are not a wise choice, and the Energy Community ensuring compliance with the relevant EU acquis. Such work can be complemented by investigative journalists trying to understand in more depth the machinations behind the decision-making, as well as by the EU sending strong messages regarding legal compliance.

One note here is that the EU needs to be a lot clearer in the messages it is sending. While it has wholeheartedly taken up the message that a coal phase-out is needed, its support for gas infrastructure via the selection of the Projects of Energy Community Interest (PECI) list and in its recent Economic and Investment Plan for the Western Balkans is sending the wrong message about gas' compatibility with decarbonisation, particularly for countries where the use of gas is not widespread. The same goes for donors like the EBRD, who have openly advocated to expand the use of gas in the region, despite the fact this would entail significant investments in the opposite direction of decarbonisation.⁴²

2. Advance a sustainable energy transition by seizing BiH's energy savings potential, opening markets and enabling the deployment of sustainably-sited solar and wind projects, with a particular emphasis on prosumers. Specific efforts need to be made in the heating, industry and transport sectors, which are currently receiving much less attention than the power sector.

Given the governance problems plaguing BiH's entity-level energy planning, our respondents mostly see potential for energy transition to speed up on the small-scale level, via households and small and medium-sized enterprises, but also with some leadership by local governments.

Bosnia and Herzegovina's feed-in tariff schemes have lost credibility through their support for small hydropower, and in any case they need to be replaced in line with the provisions of the EU's Energy and Environment State Aid Guidelines as a legal requirement under the Energy Community Treaty.

Opinions differ on whether incentives – in the form of feed-in premiums – are still needed at all for larger wind and solar plants. As costs have fallen, smaller plants are also becoming more and more feasible, though support schemes for prosumers and self-consumption are still very much needed.

'What [has] to be subsidised is prosumers and self-consumption. If you subsidise that more people will go in, if more people go in they will start to understand what is going on. When you have that approach with the citizens and local communities then transition will speed up...'

The other thing is that one of the keys in energy transition are small and medium companies. If they see their opportunity to cut their cost in this situation with COVID,

then the energy transition will go up. That's one sector where nobody sees them as an important actor, but I see them as the most important one. If they see an opportunity to cut costs, then they will invest money...'

'I am very much promoting energy communities, prosumers and models, which will unlock six billion euros in savings of Bosnians – diaspora and the locals – in the local banks... The private sector I mentioned already, prosumers, especially small and medium-sized enterprises, local governments.'

'I think that municipalities and local authorities – especially if there is a willingness of the mayors to actually, really actively be involved in energy transition – their roles are really significant. And local communities, including initiatives coming from the people, from different organisations, experts as well, have the biggest role in the energy transition.'

Local authorities could play a particular role in the heating and public transport sectors, as they have a greater role in this field than in electricity. They can and must incentivise deep renovation of buildings for energy efficiency, as well as increasing the use of solar hot water and heat pumps. The district heating sector in particular is undergoing interesting developments, with low-temperature heating networks and heat pumps offering a wider range of heat sources than previously available.

Improvement of and electrification of public transport should also be prioritised by local authorities, as well as measures for non-motorised transport such as walking and cycling. These heating and transport measures will not only save energy but also reduce pollution in cities.

Donors have in recent years become more and more interested in the potential for sustainable cities, so initiatives such as the EBRD's Green Cities⁴³ may offer support, as long as the city authorities approach planning with an open mind and willingness to include the public in decision-making.

As explained above, for higher levels of renewable energy integration into the grid, electricity market opening is needed, for which higher level decision-making is inevitable. In order to make this happen, a combination of pressure from civil society and experts is needed, in combination with measures to ensure that any resulting price rises do not hit vulnerable consumers.

3. Avoid being distracted by unsustainable energy sources such as hydropower in sensitive areas, fossil gas, biofuels, waste incineration, large-scale use of forest biomass, or unproven/unavailable technologies such as renewable hydrogen.

Avoiding unsustainable or unproven solutions is a major component of energy transition. It is natural for decision makers to want to take the path of least resistance, which means they often choose energy sources which most

closely resemble those being replaced – so gas, biomass or waste to replace coal; biofuels to replace petrol or diesel; or hydrogen or renewable gas to replace fossil gas.

The question of which solutions are suitable for a particular situation is not always simple, and civil society organisations and other experts play an important role in explaining the pros and cons to decision makers and the public and advocating for suitable solutions. Even where a specific technology may in principle be acceptable, civil society groups need to be involved in monitoring the approval process to ensure legal compliance.

Such work can be complemented by investigative journalists trying to understand in more depth the machinations behind the decision-making, as well as by the Energy Community Secretariat and EU sending strong messages regarding legal compliance.

We have already noted the necessity here of the EU and other donors sending clear messages with regard to gas, but the same goes for environmentally risky hydropower and less developed technologies such as renewable hydrogen. To be responsible, donors need to take a precautionary approach and avoid promoting unproven technologies or those with high environmental risks, and encourage the region's authorities to pay more attention to energy efficiency and low-risk technologies.

ENDNOTES

- 1 According to the 2013 census. Agency for Statistics of Bosnia and Herzegovina, Census of Population, Households and Dwellings in Bosnia and Herzegovina, 2013 final results, June 2016; https://www.popis.gov.ba/popis2013/doc/RezultatiPopisa_BS.pdf.
- 2 Balkan Green Energy News, Mesihovina, the first wind farm in Bosnia & Herzegovina connected to grid, *Balkan Green Energy News*, 15 March 2018; <https://balkangreenenergynews.com/mesihovina-first-wind-farm-bosnia-herzegovina-connected-grid/>.
- 3 Vladimir Spasić, FBiH to introduce renewable energy auctions in 2021, *Balkan Green Energy News*, 10 October 2019; <https://balkangreenenergynews.com/fbih-to-introduce-renewable-energy-auctions-in-2021/>.
- 4 Igor Todorović, Republic of Srpska awards Bileća solar power plant concession to EFT, *Balkan Green Energy News*, 14 May 2020; <https://balkangreenenergynews.com/republic-of-srpska-awards-bileca-solar-power-plant-concession-to-eft/>.
- 5 Stefan Radulovikj, Bosnia's Serb Republic awards concession to ERS for 72.9 MW PV plant, *Renewables Now*, 20 October 2020; <https://renewablesnow.com/news/bosnias-serb-republic-awards-concession-to-ers-for-729-mw-pv-plant-717831/>.
- 6 Energy Community Secretariat, Annual Implementation Report 2020 – Energy Community, November 2020; https://www.energy-community.org/dam/jcr:0af3b17a-3759-4a23-a2ef-3134784e217c/EnC_IR2020.pdf.
- 7 Pippa Gallop, A tale of two communities successfully resisting the Balkan hydropower tsunami, CEE Bankwatch Network, July 2018; <https://bankwatch.org/story/a-tale-of-two-communities-successfully-resisting-the-balkan-hydropower-tsunami>.
- 8 Bosnia and Herzegovina State Energy Regulatory Commission (DERK), Annual Report for 2019, Tuzla, December 2019; <https://www.derk.ba/DocumentsPDFs/DERK-Izvjestaj-o-radu-2019-b.pdf>.
- 9 International Energy Agency, Total energy supply (TES) by GDP, Bosnia and Herzegovina, 1990–2018, IEA Data and Statistics, last accessed 3 December 2020; <https://www.iea.org/data-and-statistics?country=BOSNIAHERZ&fuel=Energy%20transition%20indicators&indicator=TPESbyGDP>.
- 10 International Energy Agency, Share of total final consumption (TFC) by sector, Bosnia and Herzegovina 1990–2018, IEA Data and Statistics, last accessed 3 December 2020; <https://www.iea.org/data-and-statistics?country=BOSNIAHERZ&fuel=Energy%20consumption&indicator=TFCbySector>.
- 11 Bosnia and Herzegovina, Framework Energy Strategy until 2035, 2018, p.155 ff; http://www.mvteo.gov.ba/data/Home/Dokumenti/Energetika/Framework_Energy_Strategy_of_Bosnia_and_Herzegovina_until_2035_ENG_FINAL....pdf.
- 12 The Agency for Statistics of Bosnia and Herzegovina publishes data such as the Transport 2019 report; however, information about passenger kilometres in urban public transport is missing, so no overall modal split can be presented; http://www.bhas.ba/data/Publikacije/Bilteni/2020/TRA_00_2019_TB_00_BS.pdf.
- 13 Ioana Ciuta and Pippa Gallop, The great coal jobs fraud, 2018 update, CEE Bankwatch Network, June 2018; <https://bankwatch.org/wp-content/uploads/2018/06/Jobs-study-june-2018-update-ENG-CEE-Bankwatch.pdf>.
- 14 Iskra Pavlova, Bosnia's Federation opens oil, gas exploration/production tender, SEE News, 8 January 2020; <https://seenews.com/news/bosnias-federation-opens-oil-gas-explorationproduction-tender-682814>.
- 15 Eurostat: Energy Dependence %, Table T2020_RD320, last updated 26 June 2020; https://ec.europa.eu/eurostat/databrowser/view/t2020_rd320/default/table?lang=en.
- 16 Bosnia and Herzegovina, Framework Energy Strategy until 2035, 2018; http://www.mvteo.gov.ba/data/Home/Dokumenti/Energetika/Framework_Energy_Strategy_of_Bosnia_and_Herzegovina_until_2035_ENG_FINAL....pdf.
- 17 Preparatory works have been carried out at Tuzla 7, but not the actual construction.
- 18 CEE Bankwatch Network, Buk Bijela and the Upper Drina cascade, last accessed 3 December 2020; <https://bankwatch.org/project/buk-bijela-the-upper-drina-cascade>.



- 19 Pippa Gallop, Assault on the Neretva river basin runs into blockades and lawsuits, *CEE Bankwatch Network*, 21 May 2020; <https://bankwatch.org/blog/bosnia-and-herzegovina-assault-on-the-neretva-basin-runs-into-blockades-and-lawsuits>.
- 20 Xinhua, China, BiH to jointly build hydropower plant, *China.org.cn*, 7 May 2020; http://www.china.org.cn/world/2020-05/07/content_76014279.htm.
- 21 The final version is available on the UNFCCC NDCs website, last accessed 29 May 2021; [https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Bosnia-Herzegovina First/NDC BiH_November 2020 FINAL DRAFT 05 Nov ENG LR.pdf](https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Bosnia-Herzegovina%20First/NDC%20BiH_November%20FINAL%20DRAFT%2005%20Nov%20ENG%20LR.pdf).
- 22 Izvještaj o utvrđenim doprinosima Bosne i Hercegovine za smanjenje emisija gasova sa efektom staklene bašte (NDC BiH) za period 2020.-2030., draft, April 2020, [http://www.mvteo.gov.ba/data/Home/Dokumenti/Vodni resursi/09062020_NDC BiH_Nacr_t_april_2020.docx](http://www.mvteo.gov.ba/data/Home/Dokumenti/Vodni%20resursi/09062020_NDC_BiH_Nacr_t_april_2020.docx); Mapa puta i akcionog plana za sprovođenje Utvrđenih doprinosa Bosne i Hercegovine za smanjenje emisija gasova sa efektom staklene bašte za period 2020.-2030., draft, April 2020, [http://www.mvteo.gov.ba/data/Home/Dokumenti/Vodni resursi/09062020_NDC BiH_Mapa_puta_i_akcijski_plan_Nacr_t_april_2020.docx](http://www.mvteo.gov.ba/data/Home/Dokumenti/Vodni%20resursi/09062020_NDC_BiH_Mapa_puta_i_akcijski_plan_Nacr_t_april_2020.docx); Strategija prilagodavanja na klimatske promjene i nisko-emisionog razvoja Bosne i Hercegovine za period 2020.-2030., draft, April 2020; [http://www.mvteo.gov.ba/data/Home/Dokumenti/Vodni resursi/09062020_Strategija prilagodjavanja_i_niskoemisionog_razvoja BiH_2020-2030_Nacr_t_april_2020.docx](http://www.mvteo.gov.ba/data/Home/Dokumenti/Vodni%20resursi/09062020_Strategija_prilagodjavanja_i_niskoemisionog_razvoja_BiH_2020-2030_Nacr_t_april_2020.docx)
- 23 USAID, South Natural Gas Interconnection video, 22 October 2020; https://www.youtube.com/watch?v=HXucP5J8KOI&feature=emb_logo.
- 24 The areas to be gasified are mostly served by Elektroprivreda HZHB, which does not own any coal power plants – only hydropower and wind.
- 25 Republika Srpska Concession Commission, Activity and a financial report for 2018, Banja Luka, April 2019; <https://koncesije-rs.org/wp-content/uploads/2019/10/2018-izvjestaj-lat.pdf>.
- 26 Center for Environment, Novi ustupci Serdarovu: Podiže snagu TE „Ugljevik 3“ da više naplati od Republike Srpske, 21 February 2020; <https://czzs.org/novi-ustupci-serdarovu-podize-snagu-te-ugljevik-3-da-vise-naplati-od-republike-srpske/>.
- 27 Pippa Gallop, Drina hydropower plants' impact on Montenegro cannot be ignored, *CEE Bankwatch Network*, 18 May 2020; <https://bankwatch.org/blog/drina-hydropower-plants-impact-on-montenegro-cannot-be-ignored>.
- 28 Ioana Ciuta, Pippa Gallop, Bosnia-Herzegovina politicians mark April Fools' Day by backing new coal plant, *CEE Bankwatch Network*, 1 April 2019; https://bankwatch.org/campaign_update/bosnia-herzegovina-politicians-mark-april-fools-day-by-backing-new-coal-plant.
- 29 Eleanor Rose, New China-backed coal plants on EU's borders could saddle states with massive carbon costs, *Unearthed*, 14 January 2020; <https://unearthed.greenpeace.org/2020/01/14/china-belt-and-road-coal-plants-in-bosnia-serbia-balkans/>.
- 30 Vladimir Spasić, Power utility ERS to borrow EUR 307 million for new renewable energy power plants, *Balkan Green Energy News*, 18 July 2019; <https://balkangreenenergynews.com/power-utility-ers-to-borrow-eur-307-million-for-new-renewable-energy-power-plants/>.
- 31 The last public confirmation of this came in July 2018, but we assume that the promoter would be keen to emphasise the project's progress to the public and would have at least mentioned it if one had been carried out; <https://www.capital.ba/he-buk-bijela-se-gradibez-elaborata-i-studije/>.
- 32 The company name, its country of origin and other details about its business has been anonymised.
- 33 For example in BiH's draft Low-carbon development plan: Strategija prilagodavanja na klimatske promjene i nisko-emisionog razvoja Bosne i Hercegovine za period 2020.-2030., draft, April 2020, [http://www.mvteo.gov.ba/data/Home/Dokumenti/Vodni resursi/09062020_Strategija prilagodjavanja_i_niskoemisionog_razvoja BiH_2020-2030_Nacr_t_april_2020.docx](http://www.mvteo.gov.ba/data/Home/Dokumenti/Vodni%20resursi/09062020_Strategija_prilagodjavanja_i_niskoemisionog_razvoja_BiH_2020-2030_Nacr_t_april_2020.docx).
- 34 Europe Beyond Coal, Polish utility ZE PAK to close all its lignite plants in line with UN Climate Agreement, 1 October 2020; <https://beyond-coal.eu/2020/10/01/polish-utility-ze-pak-to-close-all-its-lignite-plants-in-line-with-un-climate-agreement/>.
- 35 Europe Beyond Coal, Greece and Hungary to phase out coal-fired electricity, 24 September 2019; <https://beyond-coal.eu/2019/09/24/greece-and-hungary-to-phase-out-coal-fired-electricity/>.
- 36 Ioana Ciuta, Pippa Gallop, Davor Pehchevski, Comply or Close, *CEE Bankwatch Network*, June 2020; https://bankwatch.org/wp-content/uploads/2020/06/COMPLY-OR-CLOSE-How-Western-Balkan-coal-plants-breach-air-pollution-laws-and-what-governments-must-do-about-it-2020-Update_final_eng.pdf.
- 37 Ioana Ciuta and Pippa Gallop, The Great Coal Jobs Fraud – 2018 update, <https://bankwatch.org/wp-content/uploads/2018/06/Jobstudy-june-2018-update-ENG-CEE-Bankwatch.pdf>; BN Televizija, U izornoj godini 300 radnika više, *BN Televizija*, 30 May 2019; <https://www.rtvbn.com/3946497/u-izornoj-godini-300-radnika-vise>.
- 38 Ioana Ciuta and Pippa Gallop, The Great Coal Jobs Fraud – 2018 update; <https://bankwatch.org/wp-content/uploads/2018/06/Jobstudy-june-2018-update-ENG-CEE-Bankwatch.pdf>.
- 39 Independent System Operator for BiH, Indicative Plan for Generation 2019–2028, NOSBIH, April 2018; [https://www.nosbih.ba/files/dokumenti/Indikativan plan razvoja/2018/IPRP 2019-2028.pdf](https://www.nosbih.ba/files/dokumenti/Indikativan%20plan%20razvoja/2018/IPRP%202019-2028.pdf).
- 40 Bosnia and Herzegovina State Energy Regulatory Commission (DERK), Annual Report for 2019, Tuzla, December 2019; <https://www.derk.ba/DocumentsPDFs/DERK-izvjestaj-o-radu-2019-b.pdf>.
- 41 Bosnia and Herzegovina State Energy Regulatory Commission (DERK), Odluka o odobrenju maksimalno moguće snage prihvata iz neupravljivih izvora električne energije, Official Gazette of Bosnia and Herzegovina, no. 56/20, 11 September 2020; <https://www.derk.ba/DocumentsPDFs/Odluka-o-odobr-maks-snage-prihvata-03Sep20-b.pdf>.
- 42 Jakov Milatovic and Damin Chung: Kicking the coal habit in the Western Balkans, *EBRD*, 3 December 2018; <https://www.ebrd.com/news/2018/kicking-the-coal-habit-in-the-western-balkans.html>.
- 43 See <https://www.ebrdgreencities.com/> for more details.



BULGARIA





ENERGY SECTOR OVERVIEW

Bulgaria, with around 6.9 million people,¹ relies mainly on coal and nuclear power, and to a lesser extent, hydropower, for its electricity generation. It is one of only two countries in our study – along with Bosnia and Herzegovina – to have exported electricity every year since 2010.

About a third of its 12,839 MW of installed electricity generation capacity is made up of coal plants, around a quarter hydropower and just under 16 per cent nuclear, and the remainder consists of wind power, gas, solar, and smaller amounts of biomass. But as shown below, in terms of generation, nuclear provides more than a third of electricity and hydropower less than ten per cent.

The Bulgarian energy sector is dominated by state owned companies. Bulgarian Energy Holding (BEH) owns four subsidiaries in the electricity sector – Maritsa East 2 coal power plant, Kozloduy nuclear plant, *Natsionalna elektricheska kompania* (NEK) (hydropower and electricity trading and supply) and *Elektroenergien sistemen operator* (ESO), the transmission system operator.²

As of 2015, BEH accounted for no less than 59 per cent of electricity generated in Bulgaria,³ thus dominating the power sector. However there are also numerous private operators. For example, AES owns the Galabovo coal power plant and Sveti Nikola wind farm,⁴ ContourGlobal owns the Maritsa East III coal plant,⁵ and energy tycoon Hristo Kovachki owns around 150 companies, including three coal power plants, eight district heating plants and eight coal mines.⁶

Like most other southeast European countries, the first renewable energy source to be supported was small hydropower. Bulgaria's boom started in the late 1990s and early 2000s, with about 250 small hydropower plants built, and

enormous damage wrought on the country's rivers and streams.⁷

Solar and wind also grew in the later 2000s,⁸ but in 2012 incentive payments were drastically reduced⁹ and even existing plants were subject to a grid access fee introduced overnight, although this was later overturned in court.¹⁰ In 2015 incentives were scrapped for all new plants¹¹ except installations under 30 kW.¹²

The only renewable sources which have continued to grow in recent years are biomass and small solar PVs of up to 30 kW. In 2019 and 2020 more than 380 such PV systems were installed in Bulgaria.¹³

Electricity generation has somewhat declined in the last ten years, particularly from coal. In 2015 the Varna coal power plant, which used imported hard coal, stopped operating.¹⁴ In 2018 and 2019, the Bulgarian Ministry of Environment gave permission to three coal plants – Brikel, Republika Pernik and Bobov Dol – to burn large quantities of unknown types of waste.¹⁵ As well as a public health hazard, this may be seen as a sign of the difficulties the industry is in, trying to find new ways to stay afloat financially. In early 2019 Bobov Dol announced it would stop this practice.¹⁶

Between 2010 and 2018 electricity consumption rose by almost 10 per cent; however, this increase was absorbed by the existing generation capacity.

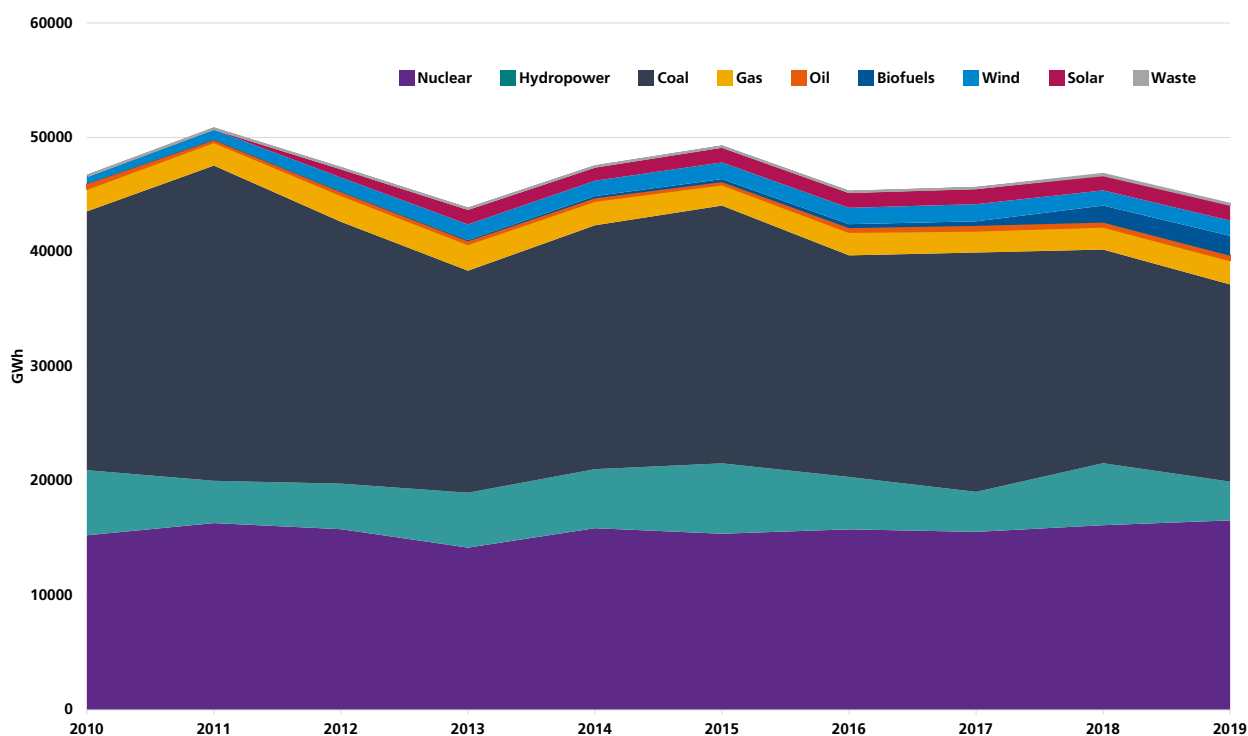
Bulgaria undertook commitments to increase the share of renewable energy – for total final energy consumption, not just electricity – to 16 per cent by 2020. It had already met this target by 2013, and by 2018 reached 20.49 per cent.¹⁷ Compared to its plans,¹⁸ it installed much more solar PV than expected, but much less wind, and somewhat less biomass and small hydropower.

Table 1
Installed capacity of electricity generation facilities in Bulgaria, 2020

Energy source	Installed capacity, 2020, MW	Per cent
Nuclear	2,000	15.6
Thermal lignite	4,119	32.1
Thermal hard coal	246	1.9
Thermal gas	1,360	10.6
Hydro	3,213	25
Wind	701	5.5
Photovoltaic	1,121	8.7
Biomass	79	0.6

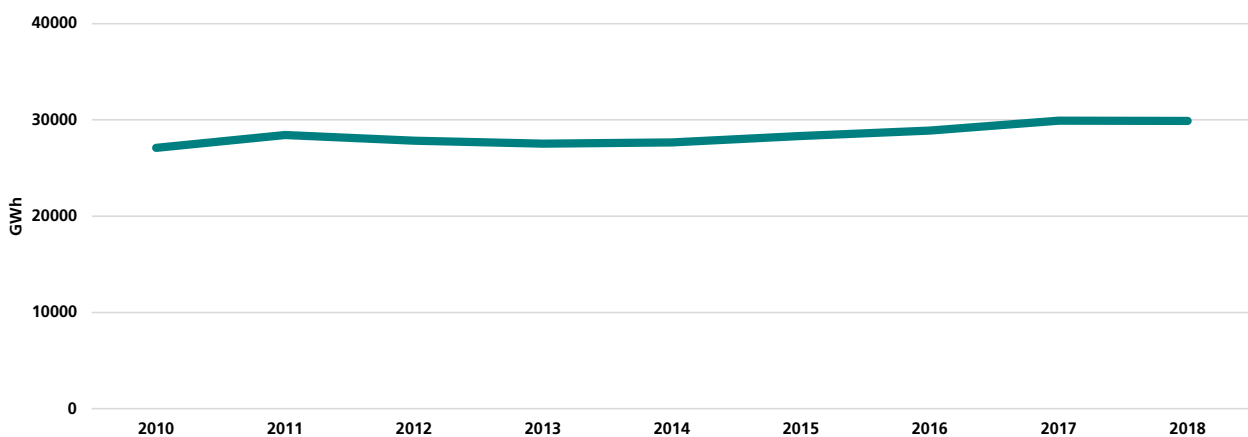
Source: ESO EAD Statistical Pocketbook 2020, <http://eso.bg/?did=465>

Figure 1
Electricity generation in Bulgaria, 2010–2019



Source: IEA Statistics, <https://www.iea.org/data-and-statistics/data-tables?country=BULGARIA&energy=Electricity&year=2019>

Figure 2
Electricity consumption in Bulgaria



Source: IEA Data and Statistics, <https://www.iea.org/data-and-statistics/data-tables?country=BULGARIA&energy=Electricity&year=2019>

Like its peers, Bulgaria uses energy inefficiently – it is 3.7 times as energy-intensive as the EU average.¹⁹ The transport sector is responsible for the highest share of total final energy consumption, but the residential sector still has significant potential for improvements.²⁰

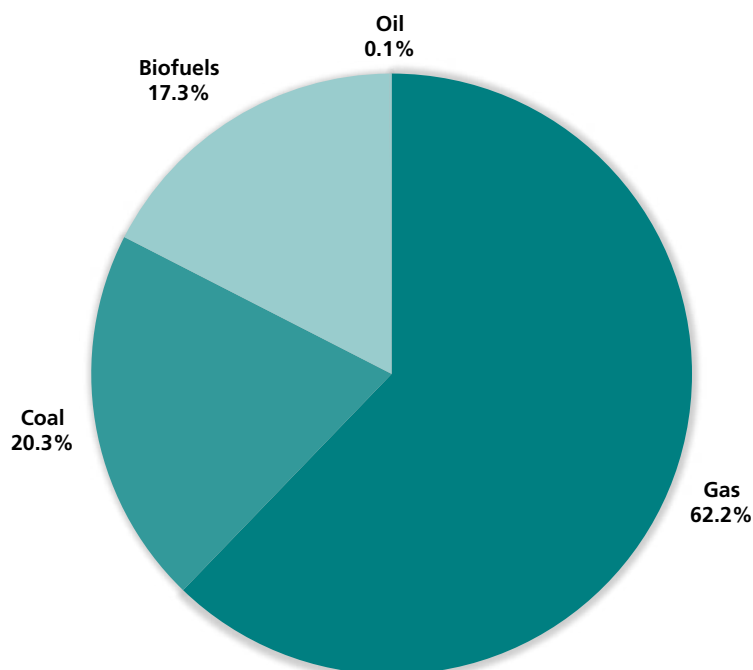
The most common forms of heating for individual houses are wood, coal and electricity. Updated data is hard to come by but data from the last census in 2011 showed that almost 60 per cent of Bulgarian households relied on coal and wood for heating; over a quarter used electricity; just under 14 per cent were connected to district heating and 1.2 per cent used gas directly.²¹

Private road transport predominates for both passenger and goods transport. In 2018, nearly 86 per cent of passenger-kilometres were undertaken by car, 13 per cent by bus and just 2 per cent by train.²² With freight, rail accounted for 19.3 per cent of freight-kilometres,²³ so there is great room for improvement.

Opencast lignite mining is mainly carried out in the state-owned mines of Mini Maritsa Iztok EAD (MMI), which is a subsidiary to the BEH, and whose production accounted for 96.6 per cent of the country's total 29 million tonnes in 2018. Other lignite mining companies accounted for less than two per cent each: Stanyantsi JSC and Beli Bryag JSC.²⁴



Figure 3
District heating in Bulgaria by fuel, 2019



Source: IEA Statistics, <https://www.iea.org/data-and-statistics/data-tables?country=BULGARIA&energy=Electricity&year=2019>

Brown coal²⁵ is mostly mined in western Bulgaria, and in 2018 amounted to 1.3 million tonnes. Vagledobiv Bobov Dol EOOD, a private company whose ownership is obscure, but which is often associated with energy tycoon Hristo Kovachki,²⁶ mines in the Bobov Dol coalfield. The company's Babino mine closed in 2017, leading to the layoff of 650 people, followed by the country's last underground mine at Bobov Dol in 2018, with another 400 redundancies. Now only coal mined at an opencast mine is supplied to the nearby power plant and households.²⁷

Otkrit Vagledobiv Mines EAD, another private company, owns two opencast mines in the Pernik coalfield supplying the Bobov Dol coal power plant. Balkan MK OOD carries out underground coal mining in the Oranovo coalfield, while another small, privately owned mine is the Vitren mine in the Katrishte deposit. The Chernomore mine in the Black Sea coalfield near Burgas closed in 2016. Hard coal production is insignificant, around 35,000 tonnes, and is carried out by Mina Balkan 2000 EAD.

According to the EU's Joint Research Centre, the coal industry employed 12,944 people in 2018 – 10,300 in mining and 2,660 in power plants.²⁸ This corresponds to the industry figure of 10,294 people employed in coal mining in 2018, but the two sets of figures on indirect employment differ dramatically. Euracoal cites 45,000 as being employed indirectly, including in power generation, services, equipment supply, etc.,²⁹ but the Joint Research Center reports only 5,584 people employed indirectly as a result of the coal sector.³⁰

Bulgaria imports all of its oil and extracts a marginal amount of gas domestically.³¹ It hopes to increase production in the Black Sea. Its gas is mostly imported from Russia, but at the end of 2020, the TAP pipeline company reported delivering its first gas from Azerbaijan, some of which was then transported to Bulgaria.³² Greater quantities are expected to be imported via a new pipeline connecting Bulgaria and Greece, currently under construction.³³

Bulgaria's natural gas business is dominated by BEH, via its subsidiaries *Bulgargaz* and *Bulgartransgaz* – the public gas supplier and transmission and transit operator, respectively.³⁴ Despite a goal of gasification of 30 per cent of households by 2020, the current level is around three per cent. However, Bulgaria is still planning to continue with this goal, albeit now by 2030.³⁵

Bulgaria's net energy import dependence was 38 per cent in 2019, compared to the EU-28 average for the same year of nearly 58 per cent,³⁶ reflecting the use of mostly domestic resources for electricity generation. However, Bulgaria imports almost all of its natural gas, nuclear fuel and crude oil from a single trading partner – the Russian Federation.³⁷

BULGARIA'S ENERGY POLICIES

Bulgaria was the earliest of its peers to abandon plans for new coal, but this has not been matched by significant progress towards a coal phase-out. The country, as an EU member, needs to achieve full decarbonisation by 2050,



but its domestic policies do not clarify how it plans to achieve this. Its National Energy and Climate Plan (NECP) avoids specifying any coal phase-out date and claims it will make ‘maximum use’ of the country’s coal reserves, while fossil gas is seen as something to be increased, not decreased.³⁸ However, hidden in an annex to the NECP, some figures are provided, in which it becomes clear that by 2040, coal will play a negligible role in Bulgaria’s power sector.

But reality is going faster than the NECP developers expected. The NECP annex predicted that by 2020, coal would generate 21,803 GWh,³⁹ whereas IEA data for 2019 shows that Bulgaria was already down to 17,225 GWh from coal.⁴⁰ The NECP annex did not predict such a low level until 2029/2030. So, it is highly likely that in reality, Bulgaria’s coal exit will happen long before 2040, and the country needs to be ready. However, due to the obfuscation on the coal phase-out date in the NECP, it also does not mention any plans/measures related to ensuring a just transition or mitigating the socio-economic effects of energy transition.

The NECP does not commit to any greenhouse gas emissions (GHG) reductions outside of the EU Emissions Trading Scheme sectors, reasoning that in 2015, more than 74 per cent of GHG emissions were generated by the energy sector in Bulgaria, and this is therefore the main area where reductions are needed. It expects that GHG emission levels in the energy sector will decrease by approximately 19 per cent by 2030, compared to 2015.⁴¹ However, the decline in coal use between 2015 and 2019 suggests that this figure has most likely already been surpassed.

Considering Bulgaria’s current energy intensity, it is notable that its NECP foresees an increase of 11 per cent in electricity consumption between 2020 and 2030, with the household and industrial sectors retaining their combined share of two-thirds of total demand. Some increase in electrification of transport is expected, but this would still account for only a small share of consumption.⁴² Most of our respondents considered it unrealistic to expect an increase in demand considering the current wastage and the need for energy efficiency improvements, and some felt that the expected growth is included to justify planned projects such as new nuclear capacity. In any case, they pointed out that different scenarios should have been explored, as the baseline and target scenarios in the NECP are extremely similar in terms of overall energy consumption.

By 2030, Bulgaria’s NECP foresees a renewable energy target of 27.09 per cent in gross final energy consumption. For the electricity sector, the renewable energy target is 30.33 per cent. This would involve an increase of 2,174 MW of photovoltaics, 249 MW of wind farms, and 222 MW of biomass and waste plants compared to 2020.⁴³ Unlike its peers in the region, Bulgaria’s NECP does not plan expansion of its hydropower generation capacity, recognising its climate change vulnerability, though the controversial Yadenitsa pumped storage plant is still planned.

Bulgaria plans to extend the lifetime of its Kozloduy nuclear plant units 5 and 6, as well as building another new unit or two, either at Kozloduy or Belene.⁴⁴ However it should be noted that the Belene project has been revived and cancelled several times since the early 1980s.⁴⁵

Regarding heating, by 2030, the final consumption of energy for heating and cooling is projected to decrease by 2 per cent compared to 2020, due to energy efficiency measures. There are minor plans to further develop solar plants, which are expected to generate 347 GWh in energy for heating in 2030, but a significant increase in biomass for heating is expected as a result of the development of co-generation plants (from 4 GWh in 2020 to 2,497 GWh in 2030). The share of geothermal sources and heat pumps is expected to register a small increase over the period.⁴⁶ Overall, our respondents consider that planning in this sector is highly insufficient, and relies excessively on preserving the status quo with regard to the district heating plants.

Likewise, our respondents drew attention to a lack of serious planning in the transport sector. Where plans do exist, such as in the National Energy and Climate Plan, they rely mainly on biofuels and gas, and little attention is given to electrification. Apart from a few pilot projects, there does not seem to be a serious plan to decarbonise the transport sector.

WHY IS BULGARIA’S ENERGY TRANSITION NOT ADVANCING MORE QUICKLY?

STATE CAPTURE BY INCUMBENT UTILITIES, LACK OF TRANSPARENCY AND RULE OF LAW

Our Bulgarian interviewees were by far the most outspoken of all the countries in alleging corruption in the country’s energy sector, and they are not the only ones who think it is rampant: It is easy to find numerous other experts making similar allegations in the media. Bulgaria couples a strong state-owned energy company, BEH, which as mentioned above, generates almost 60 per cent of electricity, with a Russia-dominated gas sector. This frequently results in decisions that do not fit in the 21st century, coming at a great cost to the public purse.

‘Decisions in the energy sector are taken without public discussion. The state serves private interests and does not protect the interests of society.’

‘So far, Bulgarian governments have earned their reputation of serving the interests of large lobbying groups... In electricity, it’s the Bulgarian Energy Holding... Another part is the privatised District System Operators... In the liquid fuels market, it’s the Lukoil refinery with the associated customs-mandated liquid fuel storage warehouses. And... for gas... it’s BulgarGas, and Bulgartransgaz. These are the lobbying groups and the Bulgarian governments for the past ten years have mostly made sure that they serve those lobbying groups’ interests above everything else.’



'They want to build another nuclear power plant one way or another. But this is not because of some actual national interest or need, but because there's a lot of money to be stolen from this project...'

'This is our main issue here... not so many people are looking in[to] this, but there is quite a big sector, as I said, through different schemes of loans or subsidies, part of them are going to specific suppliers of materials or suppliers of machinery or whatever. For example, probably the biggest dam constructed in the last 10-15 years, Tsankov Kamak, took millions.⁴⁷ And... if they should pay back via production of [electricity], it would take a few hundred years...'

While the above models are rather traditional suitcases-full-of-money types of corruption, others are more institutional, resulting from a lack of clear separation of BEH from the state, as well as the lack of independence of the Commission on Electricity and Water Regulation, which is supposed to impartially regulate the electricity and water sectors in Bulgaria, including pricing.

'The so-called Commission on Electricity and Water Regulation... under the law is independent from the state, but it's in fact not independent. [It is] dealing with prices, so some people, some owners benefited... so this is... indirect corruption. They got prices higher than they should, the same with district heating – the prices for CHP [combined heat and power], [are] directly going for cross subsidy income of the heating prices, because if the people should pay the real heating prices, they would just give up with heating and then they will [go] bankrupt...'

'There is no real separation of the state [energy] entities [and the state institutions] and Bulgarian energy generation and supply is about 80 something per cent... provided by these state entities. So, you have a mega corporation [and] there are a lot of people working in it that are constantly trying to maintain their position, livelihood... This is one of the major resistances to change.'

Geopolitics plays a strong role as well, with strong Russian involvement in the oil and gas sectors. This has been the case for many years, but there continues to be a strong lack of transparency on how decisions are made in this field. Bulgarian decision makers have pledged to diversify the country's gas supply, but their actions do not match their words.

'Right now, Bulgaria is trying to diversify its gas supply. One way of doing this... is by building a new pipeline through Turkey... Initially it was called South Stream, then it was called Turkish Stream, then it was called something else [Balkan Stream]. But it's practically, again, a Russian gas pipeline that goes through Bulgaria and it's supposed to circumvent the Ukrainian gas pipeline. So it's a completely Russian project. And the Bulgarian government... they have sold our national interests in the gas and liquid fuel markets to Russians...'

'[Our] outdated concept and outdated technologies are based on huge dependence on the Russian energy sector: 100 per cent of oil, 98 per cent of gas, 100 per cent of nuclear fuel and nuclear technologies, and a huge number of technologies and repairing works for thermal power plants. All this is coming from Russia. And this is a political question. Very much so.'

Corruption and nepotism poisons all levels of decision-making and all types of investments, so it is crucial to act across the board, not only in relation to large infrastructure projects.

'In regards to actual energy efficiency... the current Bulgarian government understands only one thing, and this is construction works and renovations on old... ex-Soviet type panel buildings. And... again, this is a way to easily inflate the prices of the construction works and steal money from public works.'

'Bulgaria already started a National Energy Efficiency Programme [NEEP], that used some EUR 1+ billion for the improvement of households. And now it is demanding more than EUR 1.5 billion via the [recovery and resilience plan] for the same. The... implementation includes mainly external insulation of the buildings, often not done well and overpaid, due to the close ties between... politicians and the companies involved. Apart from this fact the NEEP never included a complex approach towards buildings' performance. The plans for the new money are also within the same approach – gluing of Styrofoam.'

However, as with the other countries covered by our analysis, there appears to be little or no accountability of decision makers. There are very rarely serious consequences for actions stemming from corruption or incompetence.

'The lack of accountability is definitely the thing that allows corruption in Bulgaria to work.'

'Examples of corruption at the state level are the Belene nuclear power plant project⁴⁸ and the Turkish Stream gas pipeline.⁴⁹ No politician has been held responsible for the huge losses from these projects, about 3 billion euros.'

'The state investigated several times the... oil sector for cartel [activity]. But, not surprisingly, [they] didn't find such a cartel... Issues are popping up in a continuous way but because the prosecutors are not working properly, the results either never appear or they're appearing so late that people just don't follow anymore...'

One example is the case of Ahmed Dogan, honorary chairman and informal head of the Movement for Rights and Freedoms political party, who was paid around EUR 750 000 to be a consultant for four large-scale hydroelectricity projects, funded by the state electricity company NEK – Tsankov Kamak, Dospat, Gorna Arda and Tundzha.

He holds a philosophy degree and has no qualifications in civil engineering. The case ended up in court but he was acquitted.⁵⁰

Later, in 2018, he acquired 70 per cent of the shares of the SIGDA company that owns the Varna coal power plant,⁵¹ which benefits from Bulgaria's reserve capacity mechanism that subsidises electricity producers to be ready to provide reserve supplies in case of need. The mechanism has been reported to the European Commission as not being in line with EU State aid rules.⁵² While there is no evidence of personal wrongdoing by Dogan in this deal, the question remains whether he had access to privileged information about the capacity mechanism or was able to influence its support for the Varna plant.

PERCEPTION OF LACK OF BENEFITS FOR BULGARIA FROM ENERGY TRANSITION

Twenty years have already passed since Bulgaria started introducing small hydropower plants in the name of green energy. Together with other problems along the way, such as the perception that high electricity bills were caused by feed-in tariffs, as well as the pressure from incumbent interests to resist change, the idea that energy transition is bad for Bulgaria is relatively widespread.

'According to politicians and trade unions, the transition to a low-carbon economy is for rich countries, we must continue to rely on coal... Climate policies were declared... to be expensive for Bulgaria. They link the increase in emissions with the economic growth approach of the 20th century.'

'Bulgarian politicians say that bad Brussels is forcing us to make reforms that are ruining the economy, that the intermediate goals set in the Green Deal by 2030 are too ambitious for us and may have a restrictive effect on Bulgarian industry and the labour market.'

'[T]his is probably, together with corruption... the centre of the propaganda against the transition. Especially between 2009 and 2011... legislation on renewables was oriented towards big-scale projects, so from one side, people closer to the politicians benefited personally from feed in tariffs, but... the same politicians made huge propaganda against renewables as the main evil [increasing electricity] prices... So, they indoctrinated many normal people that renewables are THE evil... People hardly believe that... renewables could deliver soon...'

'In fact, "transition" is a kind of bad word for [the] people who are leading the sector...'

'Some of the renewables are also not so sustainable, like... cascades of small hydros on small rivers. This is one of the problematic renewables here. Or some huge wind windmill parks in nature protection areas.'

'There were some wrong decisions aimed at reduction of feed-in tariffs for electricity from renewables, which were a wrong signal for investors. Keeping a low price of electricity is the main excuse for not developing renewables but also for not investing in conventional sources of energy and in the energy sector as a complex system that needs to ensure security of supply and cleaner energy.'

This is a typical vicious circle that can arise with any policy where there is a lack of transparency and rule of law. The best intentions can end up as a showcase of how not to do an energy transition, and thus slow down the whole process as the public backlash grows.

OUTDATED VIEW OF THE ENERGY SYSTEM AND LACK OF UNDERSTANDING OF THE SPEED OF CHANGE

Our respondents highlighted Bulgaria's lack of long-term vision or plans for the energy sector, which are both a consequence and a cause of its lack of ambition in the shorter term.

'There is no clear vision for energy transition till 2050 and... both [the renewables and energy efficiency] targets till 2030 are not ambitious.'

'Carbon neutrality by 2050 was not considered in detail [in the NECP] – what neutrality means for our context and how to achieve it. The decarbonisation dimension was not elaborated in detail, only as a model with projection numbers for different sectors, till 2030.'

'On paper, we are committed. By action, we haven't done anything. If the current political climate is preserved, by action nothing will happen for ... probably another 10 years, and therefore we will completely miss any opportunities to reach carbon neutrality in [2050].'

'In such a picture Bulgaria still wants to keep its position of net electricity exporter in 2050 at the level of 2020 exports.'

The overall picture that emerges is of a government that is not committed to an energy transition, with any progress so far happening more due to a combination of private interests and EU policies.

'Bulgaria reached a 21.56 per cent share of renewables in gross final energy consumption... more from private interest than from policy driven processes and measures at the national level.'

Our respondents' opinions differed somewhat on whether the government understands the concept of energy transition in principle. Some believed it does not, while others felt the concept is understood, but that the government resists committing to it due to political pressure and election-driven policies.

'This is the position of the Bulgarian government for the past 20 years... They demonstrate they have no understanding of what energy transition means... but to be honest, they actually do and they know what it is. It's just for political reasons, they don't want to do it.'

'A conservative way of thinking is dominating among experts and decision makers, as mainly problems with energy systems in the USA, Germany and other countries are highlighted. The disbelief is connected to the problems with reliability of renewables and needs for balancing and storage of energy.'

'[The government] considers these goals too ambitious for Bulgaria, and expects other EU countries to take more weight. There is no idea how the transition to an innovative economy and a faster recovery from the global crises and challenges of recent years, as offered by new energy technologies, will help.'

'[Our] outdated concept is not because it's just outdated, but again, because there are interests behind this outdated concept... Some people may tell you we have the best energy mix or best energy concept by now and we would like to keep them, but that's not necessarily their belief, because we have a hidden second or third level of this story... There are people who believe this concept is brilliant for Bulgaria, but there are people who are using it for other reasons...'

'Carbon neutrality, it's a nice thing, but first it requires the release of the market for renewables, for people to... be able to build and connect renewables... And... the Maritsa Basin has to change [how] people are earning their livelihood... There are 10,000 miners over there, so that's 10,000 families. The whole region... requires some structural reform for people to actually be able to work in other things... That's going to be really, really hard for a government that actually wants to preserve things the way they are and not do anything.'

Clearly, Bulgaria has a lack of willingness to move away from the model that the country is familiar with – a predominantly centralised model based on large facilities. Despite the relatively high share of households in energy consumption, remarkably little attention has been paid to their potential for renewable energy, reflecting a very centralised view of the energy sector.

'[There are] very, very slow developments in the promotion of small-scale renewables, especially small-scale PV. That's a huge, huge battle to promote especially small-scale PV for small producers to use it for their own needs.'

'Right now it's extremely hard for anyone to actually even install two solar panels on the roof of their house. Legislation is really preventing that. And it requires a lot of clout and a lot of political connections for you to actually be able to do anything in that regard. So it actually requires corruption for you to be able to install solar panels on your house...'

INCOMPLETE TRANSPOSITION AND IMPLEMENTATION OF EU RULES AFFECTING THE ENERGY SECTOR

Despite Bulgaria being an EU Member State, it is adept at finding ways to avoid properly implementing EU energy legislation and policies. Sometimes this is fairly blatant, as in the case of air quality legislation, for which it was already found non-compliant by the European Court of Justice in 2017 and is currently facing a second court case for failure to take corrective action.⁵³ Earlier in 2021 non-governmental organisations (NGOs) also submitted a complaint to the European Commission over Bulgaria allowing coal plants to emit more sulphur dioxide than legally allowed.⁵⁴

'For years, Bulgarian and European legislation has been violated by energy oligarchs with air pollution above the permissible norms [and] illegal incineration of waste in coal-fired power plants.'

'Pollution control as an organised system in Bulgaria has been destroyed very much during the last 10 years... because the Minister of Environment and Waters became weaker and weaker... Ministers who were politically driven by a development agenda, but not environmental protection or health protection... It would be good to see where the money for air pollution control is going, because they're investing in so-called integrated transport systems in big towns, but the effect is not so visible... And of course, there was huge resistance, again, by trade unions and politicians against this BAT⁵⁵ for pollution control.'

Civil society organisations have also submitted several cases to the European Commission on State aid issues in the energy sector. For example, in 2017 ClientEarth submitted a case to the European Commission alleging that the Maritsa 3 (Dimitrovgrad), Brikel, Bobov Dol and Pernik-República DH plants had received free emissions allowances but had failed to adhere to the conditions for doing so.⁵⁶

Also, on February 29, 2020, Bulgarian Energy Holding increased the capital of the Maritsa East 2 coal plant by converting BGN 597 million in debt into capital, which is alleged to constitute illegal State aid by Greenpeace Bulgaria and ClientEarth.⁵⁷

The European Commission does not seem so active regarding State aid non-compliance in Bulgaria so far, however, and in November 2019 controversially approved aid for the Sofia waste-to-energy cogeneration plant.⁵⁸

'Bulgaria is directly violating the State aid rules... First of all, the district heating received regulated prices, unlimited in time. As you know, maybe, the State aid should be limited in time for renewables. Now, there were such limits, but for district heating, no, it may last forever. And second... State aid should... not exceed the investment costs or amortisation... But most of the Bulgarian district heating plants were constructed 30, 40, 50 years

ago... But they still receive feed or regulated prices, first feed-in tariffs, now regulated prices. So this should be investigated. But because of the specific rules of DG Competition that only persons who are directly affected can complain, no one is sending complaints, just NGOs, but we are not allowed to do so formally...⁵⁹

'And then there are also hidden subsidies for coal, especially for thermal power plants... For example... power plants should receive to pay the emission allowances. But they are not paying, in fact, but the state is paying. For the state owned power plant, it's done in a very direct way through loans from the Holding to the power plant... But these two American power plants... they are first paying the emissions by themselves. And then they re-invoice it to the national electricity company because according to the long-term contracts, these are costs that are not in the contract. So, the state should cover such unexpected costs.'⁶⁰

In other cases, more effort is made to appear to comply, while in fact maintaining the status quo.

'[A]t face value we are supposed to be compliant with European Union regulations, but there's always some very, very small fine print... For instance, we are supposed to be a completely liberalised market and actually in 2017 Bulgaria really started moving [that way]. But then... Bulgarian Energy Holding... got scared that they're going to lose their grip on the energy market... So, although on paper we were compliant... they immediately did a number of things, [e.g.] they increased the financial security steps that independent energy companies have to provide in order to... operate on the energy market... And they introduced new, harder to navigate steps in regards to how an end consumer can switch their power supplier... This led to a mass runaway of end consumers away from the liberalised market, to go back to the state-owned regulated market. And... to a huge wave of bankruptcies in the energy trading sector.'

Overall, our respondents assess legal compliance as so low that it is hard to see significant results from transition so far.

'Sometimes also for certain aspects of the energy transition, the Bulgarian government and the Bulgarian energy holding structures have actually made decisions that it's cheaper for them to pay fines to the European Union and Commission than actually to reform the energy sector. And there have been many occasions where they have decided that it's better for them to pay hundreds of millions of leva as penalties instead of actually doing the work.'

'Bulgaria is completely disjointed and disconnected from the overall European Union energy strategy. It's unbelievable that we are a European Union nation. And at the end of the day, we're actually not even compliant with the European Union's resolution for the energy market. So no transition, nothing. No progress, no reform.'

Saying there has been 'no transition' and 'no reform' may seem extreme, but the fact remains that for a country which has been in the EU since 2007, Bulgaria's legal compliance and associated issues of state capture and corruption are in a very poor state. This should be an incentive to the European Commission to do more, as it would be unfortunate to send signs to other EU members and EU candidates that it is possible to regularly breach EU legislation.

LACK OF POLITICAL COURAGE TO CLOSE COAL MINES AND TACKLE JUST TRANSITION

Our respondents all agreed that pressure to maintain jobs in the state-dominated coal industry is an important reason why Bulgaria's decision makers avoid making clear statements and plans for decarbonisation. On one hand political parties need the votes of those from coal mining communities, and on the other, there is real pressure on politicians from coal companies and some trade unions. So the result, as with state capture, mentioned above, is that Bulgaria is buffeted around between economic reality and internal pressure, and fails to take control of the transition process.

'Bulgarian officials are keeping the style... not to be proactive, but to follow either guys from... this pro-coal group like Poland... or they are following some steps because of pressure from Brussels... And, of course, there is resistance in the country from the trade unions, from... some private energy producers, from political lobbyists.'

'...The politicians so far... are more interested in preserving their power through the [coal mining] unions... because that's a lot of people and a lot of votes, and they tell them we're going to preserve your livelihood if you vote for us. And therefore they resist change.'

This is presumably why Bulgaria's NECP is so vague about its plans to phase out coal and offers so little information about its plans to ensure the energy transition is just. As the European Commission noted in its assessment of the final NECP:

The NECP identifies some of the main potential impacts of the transition to a carbon-neutral economy, however these are not complemented with details or quantitative analysis. The lack of information on how and when the coal phase-out required to achieve the proposed reductions set out in the NECP will take place makes it difficult to assess whether the impact presented is due to decarbonisation or to existing structural issues. The document also mentions the need to improve skills in the population including vulnerable groups. However, the analysis of the skills aspect is not comprehensive enough.

However it would not be accurate to portray the coal mining unions as a monolithic block resisting change. Some unions have called for a just transition and put forward



suggestions for e.g. solar plants on decommissioned coal fields, with participation by the workers.⁶¹ And while there are clear fears about job losses across the affected regions, our respondents raised the question whether even those trade union leaders who do resist change fully reflect the full range of opinions of the union members.

'[The] pressure is huge. First of all... one of the two biggest trade unions would virtually be destroyed if the closure happens. But also people..., especially in the Maritsa East region, are very much afraid that they will get lesser personal and financial status. Because... the salaries in the mining sector and then the thermal power plants are the highest in the region... And... the miners also get early retirement. So those are things that they are afraid to lose. Also, because of the aging of the miners, probably. Some of them would not be able to start a new job.'

'... [B]ecause the situation with the planning of the transition is also getting late, people are getting nervous... and they also have no chance to speak out, [they] just send the trade union leaders. But we don't know whether they are talking on behalf of the people, on behalf of their own personal interests.'

'Actually the coal mining unions themselves, they understand that coal is dead and they need to reform the sector... We have worked with them to define strategies for how that... coal basin has to be reformed in the Stara Zagora region... And coal mining unions actually support those efforts and promote them themselves, but it's... the governments themselves that don't want change... and they... use the coal mining unions as validation that their political outline is good for the country, which is not entirely true...'

'Because the unions are led by a few people with heavy political involvement for many, many years, then they receive a phone call from someone from the ruling political party and they tell them, "OK, now we need to do something in regards to the strategy in that sector and let's do it that way. And you're going to validate our strategy." And they say, "Yes, we are, because you're going to give us 50 million cash as a COVID measure" and stuff like that. This is what usually happens.'

As we have seen above, however, in 2019 coal power generation was already at the level foreseen for 2029/2030 in Bulgaria's NECP. The state-owned Maritsa East 2 plant has also generated losses for several years in a row,⁶² a situation which cannot continue indefinitely, but which the government tried to gloss over by turning the plant's debt into capital in early 2020. In 2020 alone, the loss is reported to have amounted to BGN 341 million (around EUR 170 million).⁶³

'At the end of January 2020, the parliament adopted an anti-European decision, supported by the... "opposi-

tion", which obliged the Council of Ministers to take the necessary measures for the proper functioning of Maritsa East... by increasing its capital, to ensure long-term production capacity of coal-fired thermal power plants in Bulgaria, "regardless of the opinion of the European Commission on this issue."⁶⁴ This creates false expectations in society and in the trade unions that coal has a future in Bulgaria after 2030.'

Reality is moving faster than the authorities, but the issue is starting to be raised within the government. The formation of the EU's Coal Regions in Transition Platform also offers opportunities to benefit from expertise and funding. Bulgaria was slow to join this initiative, allegedly pulling out at the last minute in April 2019 due to fears about losing votes during the European and local elections that were upcoming at that time.⁶⁵ It did eventually join in 2020, however, perhaps signalling a gradual recognition that action needs to be taken.

LACK OF POLITICAL WILL TO COOPERATE WITHIN THE REGION AND TO OPEN MARKETS

Our respondents felt that the Bulgarian government's regional cooperation is very selective, and heavily influenced by balancing various external interests, rather than Bulgaria figuring out for itself what would be needed.

'The government is under pressure from trade unions, energy oligarchs, Russian energy interests. The regional projects with Greece and Romania are being implemented very slowly.'

'There are only efforts to cooperate for natural gas supply, not on renewables.'

'Big international players with influence on Bulgarian politics, which is Russia, America and the European Union... Those three parties are pushing for three different agendas and the Bulgarian government doesn't know which master to serve, let's put it this way. That's why the local regional synergies are not really exploited, because the Bulgarian government doesn't know and doesn't have the understanding on how to pursue genuine national interests.'

'A typical example would be South Stream [i.e. what is now called TurkStream]... [I]t's about to be completed, and they have changed the name... 10 different times. But in the end, it's still the same... It's still a bypass of the... Russian pipeline that goes through Ukraine... But... we're building it and... the Bulgarian government is actually financing a Russian project without Bulgarian entities having any capacity reserved on that pipeline and therefore having any rights to trade or transfer gas for that pipeline. And yet they have made a deal where we are paying for it. This is an outrage.'

POLITICAL INSTABILITY AND LACK OF VISION

At the time of writing, Bulgaria is just weeks away from a general election, after a year in which intense anti-government protests took place for more than a hundred days. It is far from clear how stable the next government will be, as a clear parliamentary majority looks unlikely. Our respondents pointed to different aspects of Bulgaria's political culture as contributing to slowing energy transition.

'My expectations are that this instability would continue because of, first of all, the Russian interest to finalise TurkStream. And because the government already started to set up the money for the next financial period. From EU money, I mean... And of course, also because the US, who finally started to fight on the Balkan and geopolitical level, they also didn't find their own [guy here] after Borisov.'

'The lack of real decentralisation in governance is hampering the creation of quality regional energy transition plans.'

'Bulgaria has only one problem and it's a political problem. And the Bulgarian way of building governments and then politics... has always been a political problem. And that's why Bulgaria is a crony capitalist country.'

In addition to overall political instability, our respondents felt that there is a surplus of strategic documents, but at the same time a lack of vision by the people running the sector.

'The most important reason is the lack of vision in politicians. They plan their actions with a horizon only until the next elections, after 1-2-3 years. This stops important reforms in the energy sector and preparations for energy transformation and a just transition.'

'Bulgaria is producing a lot of strategic documents. We are overflooded and then no one is following them. No one is even checking how much is done and how much could be withdrawn, or new things to be added and improved, etc., etc. So, people without vision, let's say, are running this country. And this is not a specific problem for the energy sector only, but for most of the sectors. And this is a huge problem. If you would like to have a good prospective, then you need a vision.'

'When we are going to talk [to local authorities] about planning and the alternative options and so on and so on, the ministers are going to the mayors and asking, "Give us projects." Nothing different. "Give us projects. We want projects." How could you have good projects or projects that would work for a long period if you don't have an analysis before?'

All of these issues are undoubtedly much wider than the energy sector and will take many years to resolve. But they

point to the need to ensure a framework in which local authorities, as well as individual companies and households, can take action to advance the energy transition irrespective of what is going on at the national level.

TECHNICAL DIFFICULTIES

As in other countries, our respondents agreed that the most serious barriers to energy transition are not technical, but rather political.

'The level of use of modern technologies is still very low. There are many administrative barriers to the development of renewable energy for households, energy co-operatives, the real decentralisation of energy production.'

'Transition... could be subdivided into steps, and if you have good planning and good steps, then you'll finish well. The point is that there is no will to do so, or people who would like to see the transition properly done are not the majority.'

'I am not aware of any actual technical reasons. There's a lot of investment needed... in many parts of the energy sector, but I don't think that any of those issues are unsolvable. All of them have clear ways, both technologically and financially, to be solved and handled. And the real problem is just lack of political will.'

'Some infrastructure difficulties could limit penetration of renewables for electricity in some regions but they could be overcome if the relevant investments are done.'

WHAT IS NEEDED TO OVERCOME THE BARRIERS TO A SUSTAINABLE ENERGY TRANSITION IN BULGARIA? WHICH ACTORS CAN PLAY A ROLE IN MOVING FORWARD THE SUSTAINABLE ENERGY TRANSITION IN THE COUNTRY?

The four main directions which need to be covered are outlined below, together with different steps necessary to achieve them and an outline of which actors could play a particular role. However, there are also a number of horizontal needs which need to be pursued in order to build the necessary governance structure for better decision-making on energy issues, which are also outlined below. All these need to be pursued simultaneously, as even with the ongoing governance deficiencies, some steps forward can and are being made.

HORIZONTAL NEEDS

Transparency, accountability and the rule of law is clearly a recurrent issue in the energy sector in Bulgaria, as well as



in other sectors. Tackling this issue in detail would clearly require a much longer analysis, but it needs to be taken into account at every step. Speaking before the April 2021 general elections, one of our respondents clearly identified changing the government as a key step for advancing the energy transition. Since the elections were inconclusive and will be repeated in July 2021 it remains to be seen whether this will be fulfilled.

Meanwhile, the means used in recent years needs to be supplemented with new mechanisms for increasing accountability and transparency.

'And, of course, all this [monitoring] work around the Just Transition Fund and the [EU funds] programmes... the [EU] Parliament and the Council agreed some kind of mechanism that links EU money, including COVID money, including just transition, to the rule of law.⁶⁶ This might be a useful instrument, and we should explore this.'

Increasing accountability for unfavourable deals already made is crucial – where possible through the courts, but also on the political level. Existing contracts for energy sector projects need to be scrutinised, perhaps by a cross-party committee, or a group of independent experts, to clearly lay out what are the priority issues to be addressed in terms of amending or annulling contracts.

'[T]he ... DSOs have privatised contracts... that are secret... and those contracts have certain clauses for maintaining their [regional] monopoly... Also the way that the Russian refinery [Lukoil] and additional energy structures around it have been sold and their monopoly has been guaranteed by the state. These are secret terms in contracts which... have a significant limit on what Bulgaria can do... if we start making big shifts, Bulgaria would owe a lot of penalties. But at the end of the day, this can also be handled in multiple ways, both politically and legally, and it's not much of an issue, it's a problem that should be solved...'

The situation also has to be taken into account by the European Union and other international actors, who must try to better understand the real situation and motivations behind the Bulgarian governments' actions and by ensuring that only 'no regrets' investments are supported, e.g. with EU funds.

Clearly, investigative journalists and civil society organisations also have a major role to play here, as watchdogs and investigators to understand the real motivations behind decisions made in the energy sector.

The second horizontal area for attention is that Bulgaria needs to take ownership of its energy transition, instead of treating it as something forced on it from outside. This is a self-fulfilling prophecy – if the government continues to run from the transition, it will inevitably fail to harvest its real benefits, whereas if it plans how Bulgaria can ben-

efit, it can make this happen. Furthermore, by continuously delaying the transition and refusing to accept the reality of the looming coal phase-out, the government puts the livelihoods of thousands of people and families at stake.

Real decentralisation of the country's management and energy production would help to make the most of local-level opportunities and bypass national-level limitations.

Both on the national and local level, though, a culture of basing plans and projects on proper analyses, as well as following up on plans and developing accountability around their implementation, needs to be developed.

'There are no skilful people to do such analysis, such planning, such in-depth strategising, how to use regional advantages or international connections for the transition. And while people propose something, that's usually people who are outside the region, so they are not well accepted in the beginning. So we'll see. There are some promising ideas, we are trying to have meetings with mayors here, with local municipalities...'

This also means increasing transparency and public participation in decision-making, including:

- Real access to information for all stakeholders, including publishing of statistics for the market, such as on the ENTSO-E website, and mandatory feedback from the institutions to requests and input within a reasonable time.
- Expanding access for participation of all stakeholders in Government Advisory Councils.
- Involve innovative business, green business, NGO experts and scientists in these government advisory councils.

One suggestion was to start local coalitions to improve the transition's image and speed it up.

'[O]ne step must be to create local coalitions in favour of transition... as soon as possible. And they should start to distribute information and knowledge to people to get public support on the spot...'

It also means ensuring adequate capacity, not only of government institutions, but also of civil society groups to scrutinise the process and develop their ideas.

'And, of course, if we manage, which I'm not very much optimistic [about], but if we manage to propose alternatives to what the official plans are proposing, that would also be very nice. But this depends on our own ability – of people who are in favour of transition. Time, people, money to sit and work.'



MAIN DIRECTIONS FOR ENERGY TRANSITION

1. Take stock of where Bulgaria is today, realistically, and adjust plans accordingly.

Despite what was said above about Bulgaria having a surplus of strategic documents, it is clear that its NECP is already out of date, particularly with regard to coal. In addition, the State aid provided to the coal sector in recent years may have to be recovered if the European Commission confirms violations of EU rules, for example in the Maritsa East 2 case submitted by Greenpeace and ClientEarth and/or the free emissions allowances case submitted by ClientEarth. The government needs to undertake updated analyses in order to show the real picture and to base future plans on that. In order to move away from the established patterns, one of the suggestions from our respondents was to establish a broader working group for the task.

‘One of my proposals for the strategy would be to set up a special inter-institutional [working group]... different from the... Ministry of Energy, because there should also be people from the Environmental Ministry, from Regional Development, from EU funding... that... should be a decision-making body, with an option to propose actions directly to the cabinet and to the parliament... The Ministry of Energy in Bulgaria is, as it is now, is not able to do the transition alone. The so-called... trilateral... approach – government, trade unions and associations of businesses – it’s quite closed for others and doesn’t work well... The members are mostly against the transition and working to oppose. So it should be an open structure, very, very flexible with the ability to analyse different alternatives and to propose decisions.’

Within this updated planning, a decarbonisation timeline is needed, as well as a coal phase-out date, to provide a framework for new investment decisions and for the possible revision of existing contracts.

More examination is also needed regarding other ‘sacred cows’ such as plans for new nuclear plants, which may well not materialise. Alternative scenarios are needed, including with different levels of energy efficiency and technological development, to ramp up Bulgaria’s level of ambition.

‘The Bulgarian economy is actually one of the worst-performing in regards to energy consumption per production or per capita in Europe. So we have a long way to go in regards to energy efficiency. So even small moves in that direction result in big savings for the overall energy market in Bulgaria. Therefore, it’s completely unrealistic... that the numbers show a constant increase for energy consumption in Bulgaria. And this is one of the things that is used as justification for building additional nuclear power, a nuclear power plant.’

‘Bulgaria ranks last in the EU in terms of energy efficiency. Unfortunately, this is not a priority in the strategy. We believe that [this] 27.09 per cent share of renewables

[in final energy consumption by 2030 is an] extremely unambitious goal. Bulgaria’s renewables potential... has been proven to be greater, and technological progress has already reached such levels that by 2030 the targets may increase by at least 10 to 15 per cent. It is a matter of political will, proper strategic planning and support for innovative public and private initiatives to realise this potential in the next 10 years.’

2. Ramp up market reforms and develop participatory plans for coal mine closure, to secure a socially just transition of the affected regions. Utilise the opportunities offered by the Platform on Coal Regions in Transition.

The government needs to bring Bulgaria’s energy sector into line with EU market rules and ensure that regional plans are made for the closure of the coal mines in consultation with the affected people, but also to show leadership and publicly stand behind the moves being made. Instead of hiding what it is doing, it needs to come up with a plan it believes in and put it into action.

‘A very quick change of [legislation is needed] to actually enable the liberalised markets and remove all the fine print stops in all the different aspects of the energy market and use that as a way to enable private initiative in those markets.’

Civil society and the media need to track the progress of such initiatives, and push for adequate public participation in decision-making. For coal region transition, the initiatives ultimately need to be led by local people and local authorities and to be developed bottom-up, not top-down, so local authorities and people in the communities need to seize the opportunity to ensure their voices are heard.

3. Make a clear plan for a gas exit

Bulgaria is currently in the midst of increasing its gas infrastructure lock-in. This is both a political problem, due to Russia’s dominance of its gas sector, and an economic problem, as gas will at some point become uneconomic, when CO₂ prices are high enough. Bulgaria is far from alone in ignoring the fact that gas is a fossil fuel that, when taking into account methane leakage from production and transportation, is often as climate-damaging as coal,⁶⁷ but it still needs to take action now to stop the lock-in developing further and turn the situation around in the coming decades.

The EU can help in this by taking a consistent approach to gas as a fossil fuel, rather than seeing it as negative only when it originates from Russia.

4. Concentrate on ‘no-regrets’ investments in energy savings and small-scale renewable energy, with a particular emphasis on prosumers. Specific efforts need to be made in the heating and transport sectors, which are receiving even less attention than the power sector.



Bulgaria still needs large-scale investments in renewable energy, but has been badly stung by past mistakes. While the overall governance of the sector is being improved, in the meantime, it would be advisable to concentrate on actions which can advance both energy transition and public support for it. For example:

- The quickest potential for energy transition to speed up may be on the small-scale level, via small and medium-sized enterprises using prosumer models, and to some extent also households, if sufficient support is provided.

'One good point is that there are a growing number of business people who are investing in PV in industrial areas for their own purposes, even without receiving some subsidies from EU funding or from other state services. This is because of the market situation. The prices are clearly now better for them, in the middle- and long-term perspective.'

'Households and industrial enterprises are the main actors for effective implementation of renewable and energy measures.'

'Transparency, well planned subsidies with leverage effect, promotion of energy cooperatives [are needed].'

'Energy poverty and some social aspects are barriers for good penetration of renewables and energy efficiency measures for households. [So, a] high intensity of subsidies is needed.'

- Local governments can take the lead where they have the mandate, in particular on energy efficiency, heating and transport, and they can work with other interested actors to move the transition along in their own areas. As heating and transport were named by our respondents as areas where concrete plans and vision are largely lacking, local governments can play a key role here.

'The National Association of Municipalities in the Republic of Bulgaria [has an] important role for good regional plans for economic and energy transition. Universities, innovative business, green business [can play an] active role in the development of industrial zones in coal areas such as Stara Zagora-Maritsa East. Also for professional training of workers and retraining.'

'[On heating,] there are multiple ways for this to be handled. Those thermal power, local producing plants..., their way of distribution of heat throughout the city... can be changed, can be split up into smaller distribution grids... with local heat production and cooling. And all of this can be an extremely cost-effective solution ...'

Work is still needed on the legislative framework that would allow these proposals to happen more smoothly as well.

'And of course, enabling all the new technologies... renewables, batteries, electrification of transport and industries. All of this needs to be enabled mostly in [legislation] to actually enable the private markets... [to] take the initiative and introduce those technologies in Bulgaria... So there's not much work to be done. It's mostly legislative and modernisation and digitalisation of processes in the state-owned enterprises and administration. And if we do that – and this can actually be done very, very quickly – this will change Bulgaria for the better, very quickly.'

'Legislation could be [changed] for creation of local heating and cooling unions..., let's say, if you have a big administrative building that puts up [water] heating solar panels on their rooftop, they could actually... heat the nearby buildings. But legislation prevents that... although there have been projects and proposals for such things to happen.'

Given the experience so far, legislation, planning and monitoring needs to be tightened to ensure adequate quality of the policies, including building renovation, to avoid partial energy efficiency fixes that do not last and generate waste.

Another area that needs attention is in making Bulgarian Energy Holding part of the transition rather than an obstacle to it.

'There's a lot of people that would like to be investors in renewable energy. They can definitely lead the market. And there are thousands of people that understand the future and want to be a part of it. And if they're allowed to participate actively on the scene, they will be a huge engine for change. What needs to be done is the Bulgarian energy holding needs to be put in the position of stopping to fight with them, then rather start to cooperate with them. One possibility would be to actually allow – that means the government to allow – the state energy company to build themselves renewable energy plants.'

MOVE AWAY FROM DISTRACTIONS IN THE FORM OF UNSUSTAINABLE ENERGY SOURCES

Bulgaria has clearly spent a lot of time and money on unsustainable solutions, including nuclear, hydropower and gas. While it seems to have learnt its lesson regarding hydropower – with the possible exception of the Yadenitsa pumped storage plant – nuclear and gas still seem to be very much on the agenda, together with a planned increase in the use of biomass and municipal waste incineration (e.g. in the Sofia cogeneration plant).

Technologies such as renewable hydrogen and renewable gas may also end up as false solutions, if they continue to be over-promoted. They are not yet widely available and are only ever likely to be sufficient to contribute to decarbonisation of the harder to abate sectors. Attempts to

bring them into very widespread use will either end up supporting the fossil gas industry if insufficient renewable gas and hydrogen are available, or may drive a new round of unsustainable renewables expansion in order to support energy-intensive production of hydrogen or land-intensive production of renewable gas based on food crops.

Civil society organisations and other experts will need to continue playing an important role in explaining the pros and cons of different options to decision makers and the public and advocating for suitable solutions. Even where a specific technology may in principle be acceptable, civil society groups need to be involved in monitoring the approval process to ensure legal compliance, a sustainable scale of development, and suitable locations.

Such work can be complemented by investigative journalists trying to understand what is going on behind the scenes in the decision-making, exposing how solutions presented as good for Bulgaria are often only good for specific individuals.

ENDNOTES

- 1 Eurostat, First population estimates EU population in 2020: almost 448 million more deaths than births, 10 July 2020; <https://ec.europa.eu/eurostat/documents/2995521/11081093/3-10072020-AP-EN.pdf/d2f799bf-4412-05cc-a357-7b49b93615f1>.
- 2 Bulgarian Energy Holding, Electricity, last accessed 1 March 2021; <https://bgenh.com/en/page/47/Electricity.html>.
- 3 Bulgarian Energy Holding, About BEH, last accessed 29 May 2021; <https://bgenh.com/en/page/39/About-BEH.html>.
- 4 AES, Our Business, last accessed 1 March 2021; <https://aes.bg/our-business/?lang=en>.
- 5 ContourGlobal, Maritsa East 3, last accessed 1 March 2021; <https://www.contourglobal.com/asset/maritsa-east-3>.
- 6 Greenpeace Bulgaria, The Financial Mines – Murky banking interests in the Bulgarian coal industry drain public funds, destroy thousands of human lives and heavily contaminate the environment, Media briefing, January 2018; https://www.greenpeace.org/static/planet4-bulgaria-stateless/2019/03/27877f1a-the-financial-mines-media-brief_4-pager-en.pdf.
- 7 WWF Bulgaria and Balkanka Fishing Club, Monitoring of existing HPP / sHPP in Bulgaria, last accessed 1 March 2021; <https://dams.reki.bg/Dams/About?action=browse>.
- 8 IEA, Data and Statistics, last accessed 1 March 2021; <https://www.iea.org/data-and-statistics/data-tables?country=BULGARIA&energy=Electricity&year=2010>.
- 9 Reuters, Bulgarian court overrules hefty fees on renewable energy, 15 March, 2013; <https://www.reuters.com/article/bulgaria-renewable/bulgarian-court-overrules-hefty-fees-on-renewable-energy-idUSL6N0C6EEP20130315>.
- 10 Tsvetelia Tsoleva, Bulgaria cuts preferential prices for renewable energy, *Reuters*, 29 June 2012; <https://www.reuters.com/article/bulgaria-renewables-cuts/bulgaria-cuts-preferential-prices-for-renewable-energy-idUSL6E8HP05S20120629>.
- 11 Euractiv, Bulgaria scraps incentives for new renewable energy installations, *Euractiv*, 27 February 2015; <https://www.euractiv.com/section/energy/news/bulgaria-scraps-incentives-for-new-renewable-energy-installations/>.
- 12 Republic of Bulgaria, Ministry of Energy and Ministry of the Environment and Water, Integrated Energy and Climate Plan of the Republic of Bulgaria 2021–2030; https://ec.europa.eu/energy/sites/ener/files/documents/bg_final_necp_main_en.pdf, last accessed 31 March 2021.
- 13 Toby D. Couture, Toma Pavlov, and Teodora Stoyanova, Scaling-up Distributed Solar PV in Bulgaria, Berlin: E3 Analytics, 2021.
- 14 Europe Beyond Coal database, last accessed 1 March 2021. The plant was sold, however, and plans exist to turn at least part of it into a gas power plant; <https://beyond-coal.eu/database/>.
- 15 Vladimir Spasić, Environmental organizations ask EU to stop waste burning in coal power plants in Bulgaria, *Balkan Green Energy News*, 3 March 2020; <https://balkangreenenergynews.com/environmental-organizations-ask-eu-to-stop-waste-burning-in-coal-power-plants-in-bulgaria/>.
- 16 Vladimir Spasić, TPP Bobov Dol intends to stop burning waste, *Balkan Green Energy News*, 30 April 2020; <https://balkangreenenergynews.com/environmental-organizations-ask-eu-to-stop-waste-burning-in-coal-power-plants-in-bulgaria/>.
- 17 Republic of Bulgaria Ministry of Energy, Fifth National Report on Bulgaria's Progress in the Promotion and Use of Energy from Renewable Resources, December 2019; https://ec.europa.eu/energy/sites/default/files/documents/bu_tr_into_eng_5th_progress_report_red_for_2017_and_2018.pdf.
- 18 European Commission, National Renewable Energy Action Plans 2020; https://ec.europa.eu/energy/topics/renewable-energy/national-renewable-energy-action-plans-2020_en, last accessed 1 March 2021.
- 19 International Energy Agency, Total energy supply (TES) by GDP, Bulgaria, 1990–2018, IEA Data and Statistics; <https://www.iea.org/data-and-statistics?country=SERBIA&fuel=Energy%20transition%20indicators&indicator=TPESbyGDPGDP>, last accessed 3 December 2020.





- 20 International Energy Agency, Share of total final consumption (TFC) by sector, Bulgaria, 1990–2018, IEA Data and Statistics, last accessed 3 December 2020; <https://www.iea.org/data-and-statistics?country=BULGARIA&fuel=Energy%20consumption&indicator=TFCbySector>.
- 21 National Statistical Institute of the Republic of Bulgaria, 2011 Population Census – main results, 2011; https://www.nsi.bg/census2011/PDOCS2/Census2011final_en.pdf.
- 22 Eurostat, Modal split of passenger transport, TRAN_HV_PSMOD, last update 1 September 2020; https://ec.europa.eu/eurostat/data-browser/view/tran_hv_psmod/default/table?lang=en.
- 23 Eurostat, Modal split of freight transport, tran_hv_frmod, last update 8 February 2021; https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=tran_hv_frmod&lang=en.
- 24 Euracoal, Bulgaria; <https://euracoal.eu/info/country-profiles/bulgaria/>, last accessed 1 March 2021.
- 25 In southeast Europe, this is often categorised separately from lignite.
- 26 Greenpeace Bulgaria, The Financial Mines, 2018; https://www.greenpeace.org/static/planet4-bulgaria-stateless/2019/03/db06f7e3-the-financial-mines_en_short.pdf.
- 27 Euracoal, Bulgaria; <https://euracoal.eu/info/country-profiles/bulgaria/>.
- 28 Kapetaki, Z., Alves Dias, P., Conte, A., Kanellopoulos, K., Mandras, G., Medarac, H., Nijss, W., Ruiz, P., Somers, J., Tarvydas, D., Recent trends in EU coal, peat and oil shale regions, EUR 30618EN, Publications Office of the European Union, Luxembourg, 42, 2021; <https://publications.jrc.ec.europa.eu/repository/handle/JRC123508>.
- 29 Euracoal, Bulgaria, <https://euracoal.eu/info/country-profiles/bulgaria/>, last accessed 1 March 2021.
- 30 Kapetaki, Z., Alves Dias, P., Conte, A., Kanellopoulos, K., Mandras, G., Medarac, H., Nijss, W., Ruiz, P., Somers, J., Tarvydas, D., Recent trends in EU coal, peat and oil shale regions, 42; <https://publications.jrc.ec.europa.eu/repository/handle/JRC123508>.
- 31 Republic of Bulgaria National Statistical Institute, Production and deliveries of natural gas, <https://www.nsi.bg/en/content/5024/production-and-deliveries-natural-gas>, last accessed 1 March 2021.
- 32 TAP AG, TAP Starts Transporting First Gas, 31 December 2020; <https://www.tap-ag.com/news/news-stories/tap-starts-transporting-first-gas>.
- 33 ICGB Interconnector, IGB's status update was discussed at the 7th Ministerial Meeting of the Southern Gas Corridor Advisory Council, 11 February 2021; <https://www.icgb.eu/igbs-status-update-was-discussed-at-the-7th-ministerial-meeting-of-the-southern-gas-corridor-advisory-council>.
- 34 Bulgarian Energy Holding, Natural gas, <https://bgenh.com/en/page/48/Natural-gas.html>, last accessed 1 March 2021.
- 35 Ministry of Environment and Water of Bulgaria, Bulgaria's Fourth Biennial Report Required under the United Nations Framework Convention on Climate Change, 29 June 2020; https://unfccc.int/sites/default/files/resource/BG_BR4_resubmission.pdf.
- 36 Eurostat: Energy Dependence %, Table T2020_RD320, last updated 8 February 2021; https://ec.europa.eu/eurostat/databrowser/view/t2020_rd320/default/table?lang=en.
- 37 European Commission, Energy Union Factsheet Bulgaria, 2017; https://ec.europa.eu/info/sites/default/files/energy-union-factsheet-bulgaria_en.pdf.
- 38 Republic of Bulgaria, Ministry of Energy and Ministry of the Environment and Water, Integrated Energy and Climate Plan of the Republic of Bulgaria 2021–2030, 61–62; https://ec.europa.eu/energy/sites/ener/files/documents/bg_final_necp_main_en.pdf.
- 39 Republic of Bulgaria, Ministry of Energy and Ministry of the Environment and Water, Reporting of used parameters and variables included in Annex 1, part 2, of the Energy Union Governance as agreed in trilogue, Annex to the NECP, undated; https://www.me.government.bg/files/useruploads/files/annex_1_part_2_12_necp2019v2_21-02-20-end1_1.pdf.
- 40 International Energy Agency statistics, Bulgaria, 2019; <https://www.iea.org/data-and-statistics/data-tables?country=BULGARIA&energy=Electricity&year=2019>.
- 41 Republic of Bulgaria, Ministry of Energy and Ministry of the Environment and Water, Integrated Energy and Climate Plan of the Republic of Bulgaria 2021–2030, 47–48; https://ec.europa.eu/energy/sites/ener/files/documents/bg_final_necp_main_en.pdf.
- 42 Republic of Bulgaria, Ministry of Energy and Ministry of the Environment and Water, Integrated Energy and Climate Plan of the Republic of Bulgaria 2021–2030, 47–48; https://ec.europa.eu/energy/sites/ener/files/documents/bg_final_necp_main_en.pdf.
- 43 Republic of Bulgaria, Ministry of Energy and Ministry of the Environment and Water, Integrated Energy and Climate Plan of the Republic of Bulgaria 2021–2030, 61–62; https://ec.europa.eu/energy/sites/ener/files/documents/bg_final_necp_main_en.pdf.
- 44 The plans change frequently between the Belene plant and a new unit or units at Kozloduy. For recent news, see: Denitsa Koseva, Bulgaria's latest nuclear U-turn, <https://www.intellinews.com/bulgaria-s-latest-nuclear-u-turn-201256/>, *Intellinews*, 26 January 2021.
- 45 CEE Bankwatch Network, Belene nuclear power plant, <https://bankwatch.org/project/belene-nuclear-power-plant-bulgaria>, last accessed 1 March 2021.
- 46 Republic of Bulgaria, Ministry of Energy and Ministry of the Environment and Water, Integrated Energy and Climate Plan of the Republic of Bulgaria 2021–2030, 63; https://ec.europa.eu/energy/sites/ener/files/documents/bg_final_necp_main_en.pdf.
- 47 The Tsankov Kamak hydropower plant became notorious for its cost increases, including the construction of a 22 kilometre road that was added to the project. See for example: Euractiv, Oettinger tells Sofia to be 'wiser' with energy projects, *Euractiv*, 6 April 2010; <https://www.euractiv.com/section/energy/news/oettinger-tells-sofia-to-be-wiser-with-energy-projects/>.
- 48 In 2016, NEK had to pay Rusatom EUR 600 million for equipment provided for Belene after Bulgaria cancelled the project in 2012. No-one appears to have been held responsible for this cost. Reuters, Bulgaria to pay 600 mln euros to Russia over cancelled nuclear project, *Reuters*, 26 October 2016, <https://www.reuters.com/article/bulgaria-nuclear-russia-idUSL8N1CW27A>. The periodic revival of the Belene project is also seen by many as a way to generate lucrative contracts for unnecessary preparatory work such as studies and analyses. See for example Denitsa Koseva, Belene project creates unholy alliance in Bulgaria, *Intellinews*, 6 June 2018, <https://www.intellinews.com/belene-project-creates-unholy-alliance-in-bulgaria-142918/>; Georgi Gotev, Is Bulgaria's Belene nuclear plant in line with EU competition law?, *Euractiv*, 16 January 2020, <https://www.euractiv.com/section/energy/news/is-bulgarias-belene-nuclear-plant-in-line-with-eu-competition-law/>.
- 49 Suspicions regarding Turkstream centre around its high per-kilometre construction costs. See: Center for the Study of Democracy, Policy Brief No. 94: TurkStream and the Russian Economic Influence in Europe, 16 December 2020; https://csd.bg/fileadmin/user_upload/publications_library/files/2020_12/PB_94_EN_WEB_v1.pdf.
- 50 Novinite, Bulgaria's Turkish Leader Cynic, Untouchable in Bonus War – Analyst, March 9, 2012; <https://www.novinite.com/articles/137420/Bulgaria%27s+Turkish+Leader+Cynic%2C+Untouchable+in+Bonus+War+-+Analyst>.
- 51 Denitsa Koseva, Bulgaria's most powerful politician buys Varna power station, *Intellinews*, 13 September 2018; <https://www.intellinews.com/bulgaria-s-most-powerful-politician-buys-varna-power-station-148493/>.
- 52 ClientEarth, ClientEarth reports Bulgarian capacity mechanism to European Commission, 7 December 2018; <https://www.clientearth.org/latest/latest-updates/news/clientearth-reports-bulgarian-capacity-mechanism-to-european-commission/>.
- 53 European Commission, Air quality: Commission decides to refer Bulgaria to the Court of Justice over its failure to comply with previous judgement, 3 December 2020; https://ec.europa.eu/commission/presscorner/detail/en/IP_20_2150.
- 54 ClientEarth, Green groups petition EU over Bulgaria's untackled SO₂ pollution, 19 January 2021; <https://www.clientearth.org/latest/press-office/press/green-groups-petition-eu-over-bulgaria-s-untackled-so2-pollution/>.
- 55 In 2017 the EU adopted the so-called LCP BREF, stipulating pollution control standards to be applied by 2021 to existing large combustion plants across the EU. Poland mounted a legal challenge against the decision and was supported by Bulgaria. Although the legal chal-

lenge was partly successful, in early 2021 the European Court of Justice ruled that because the environmental impacts of overturning the decision would be harmful, it will stay in place, and the EU has a year to re-adopt the text or agree on a new one; <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:62017TJ0699&from=EN>.

- 56 European Commission on four Bulgarian power plants in April 2017, see ClientEarth, Bulgaria faces EU Commission scrutiny over state aid misuse, 12 April 2017; <https://www.clientearth.org/latest/latest-updates/news/bulgaria-faces-eu-commission-scrutiny-over-state-aid-misuse/>.
- 57 Greenpeace Bulgaria, Природозащитници сезират Европейската комисия, че ТЕЦ Марица Изток 2 получава неправомерна държавна помощ, 12 March 2020; <https://www.greenpeace.org/bulgaria/press/2963/prirodzashtitnitsi-sezirat-evropeiskata-komisia-che-tec-maritsa-iztok-2-poluchava-nepravomer-na-durjavna-pomosht/>.
- 58 European Commission, State aid: Commission approves close to €94 million support for waste-to-energy high-efficient cogeneration plant in Bulgaria, 25 November 2019; https://ec.europa.eu/commission/presscorner/detail/en/IP_19_6349.
- 59 Barbara Lewis, Tsvetelia Tsoleva, Bulgaria accused of illegal aid to fossil fuel power providers, *Reuters*, 15 June 2017; <https://www.reuters.com/article/us-bulgaria-energy-stateaid-idUSKBN1961CY>.
- 60 For details on a complaint submitted to the European Commission on four Bulgarian power plants in April 2017, see ClientEarth, Bulgaria faces EU Commission scrutiny over state aid misuse, 12 April 2017; <https://www.clientearth.org/latest/latest-updates/news/bulgaria-faces-eu-commission-scrutiny-over-state-aid-misuse/>.
- 61 Confederation of Independent Trade Unions in Bulgaria (KNSB), КНСБ: Нуждаем се от плавен преход, енергийна и социална сигурност при реализирането на Зелената сделка, 22 July 2020; <https://knsb-bg.org/index.php/2020/07/22/knsb-nuzh-daem-se-ot-plaven-prehod-energijna-i-soczialna-sigurnost-pri-real-iziraneto-na-zelenata-sdelka/>.
- 62 Mariana Yaneva, Apostol Dyankov, Meglena Antonova, Back to the Future, Green Recovery from the Crisis, 18 May 2020; https://www.greenpeace.org/static/planet4-bulgaria-stateless/2020/07/687519e6-back-to-the-future_greenpeace.pdf.
- 63 Capital.bg, Строител на капитализма: Живко Динчев, 21 May 2021; https://www.capital.bg/politika_i_ikonomika/im-ena/2021/05/21/4211790_stroitel_na_kapitalizma_jivko_dinchev/.
- 64 This decision has been challenged by Greenpeace, Za Zemiata and ClientEarth with a complaint to the European Commission. See: Za Zemiata, Природозащитници сезират Европейската комисия, че ТЕЦ Марица Изток 2 получава неправомерна държавна помощ, 12 March 2020; <https://www.zazemiata.org/maritsaeast-state-aid/>.
- 65 Marta Anczewska, Juliette de Grandpré, Nikos Mantzaris, Georgi Stefanov, Katie Treadwell, Just Transition to Climate Neutrality: Doing right by the regions, *WWF Germany*, February 2020; <https://www.wwf.de/fileadmin/fm-wwf/Publikationen-PDF/WWF-Just-Transition-to-Climate-Neutrality.pdf>.
- 66 European Parliament, MEPs debate EU summit results on long-term budget, rule of law, climate, 16 December 2020; <https://www.europarl.europa.eu/news/en/press-room/20201213IPR93804/meps-debate-eu-summit-results-on-long-term-budget-rule-of-law-climate>.
- 67 CEE Bankwatch Network and Observatori del Deute en la Globalització, Smoke and Mirrors, 2018; <https://bankwatch.org/wp-content/uploads/2018/02/smoke-mirrors-SGC.pdf>.



CROATIA





ENERGY SECTOR OVERVIEW

Croatia, with just over 4 million people,¹ differs from most of the countries in southeast Europe in that it no longer has its own coal mines and is less dependent on coal. By far the largest amount of installed capacity consists of hydropower, followed by gas and then wind.

Croatia's electricity market is dominated by the state-owned power utility *Hrvatska Elektroprivreda* (HEP), which owns 28 hydropower plants, three fossil-fuelled power plants (two of which are not in regular operation) and four combined heat and power plants.² It supplies most electricity consumers.

The development of solar and wind energy has taken place in fits and starts in Croatia, mainly due to limitations of support scheme quotas and slow changes to the support scheme, so although it is clearly ahead of most of its non-EU neighbours, progress could have been much faster.

Like Montenegro and Albania, Croatia's heavy dependence on hydropower means its electricity generation fluctuates considerably. In wet years like 2010 and 2014 hydropower generates half of the country's demand, but most years it amounts to less.

Although the graph below shows considerable imports, in reality some of this is covered by Croatia's half of the Krško

nuclear power plant which is located in Slovenia but half-owned by Croatia. Krško was originally supposed to close in 2023 but the Slovene and Croatian governments have agreed to extend its lifetime by another 20 years.

Electricity consumption has remained relatively constant in the last ten years, dipping and then growing again slightly.

Croatia undertook to reach a share of 20 per cent renewables in final energy consumption by 2020 compared to 12.6 per cent in 2005. Although final figures for 2020 are not yet available, it is clear that the country has overshot this target by a long way, reaching more than 28 per cent in 2019.³

However, on energy efficiency it has not done so well. Croatia's target energy consumption for 2020 was 10.7 MTOE Primary Energy Consumption or 7.0 MTOE Final Energy Consumption.⁴ Final official figures are not available yet but the Commission's 2019 assessment suggested it was unlikely to fulfil the target.⁵

Croatia's greenhouse gas emissions target for 2020 was unambitious: +11 per cent compared to 2005 emissions for non-Emissions-Trading-Scheme sectors, so it is no surprise that in 2019 it was on track to stay within this limit.⁶

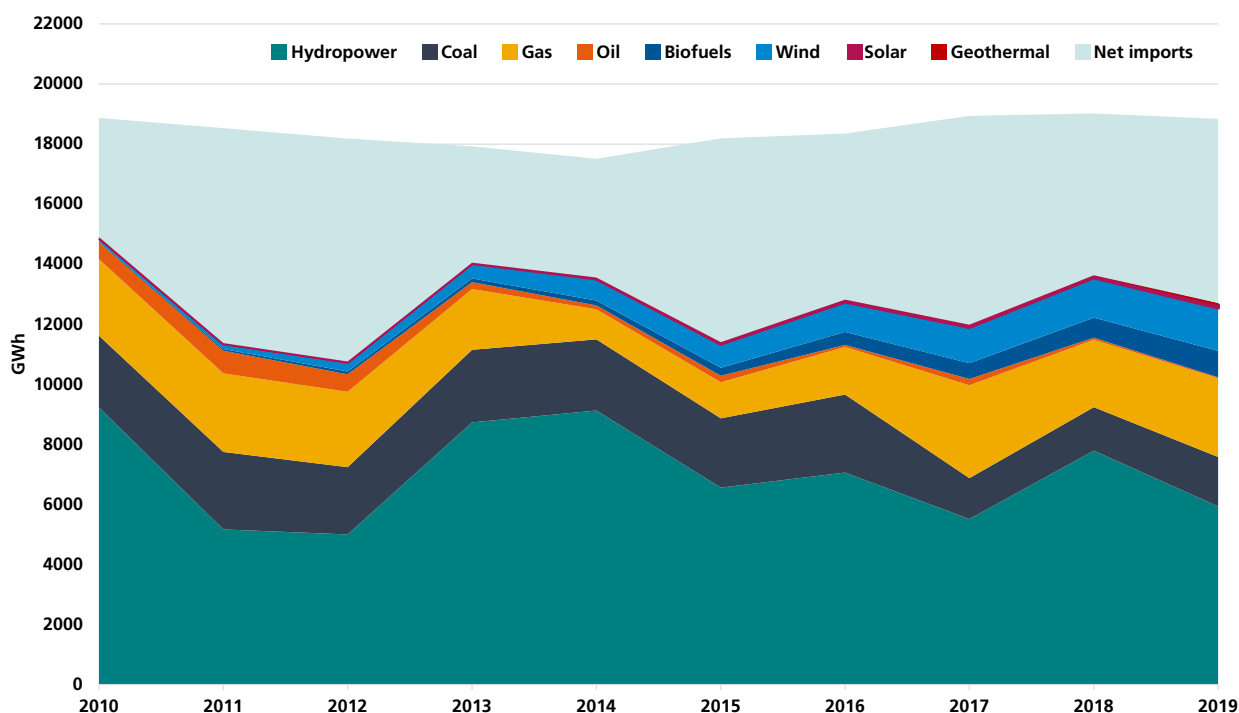
Croatia's energy intensity is not as high as others in the region, but it is still nearly twice as high as the EU average.⁷

Table 1
Installed capacity of electricity generation facilities in Croatia, 2019

Source	MW	Per cent
Large hydropower	1,891.00	37.4
Pumped storage	275.40	5.4
Small hydropower	33.3	0.7
Nuclear (half of Slovenia's Krško plant)	348	6.9
Coal	331	6.5
Gas	969.1	19.2
Wind	646.3	12.8
Oil Derivatives (303 MW not operational)*	343.5	6.8
Solar	84.8	1.7
Biomass	75.5	1.5
Biogas	51.9	1
Geothermal	10	0.2

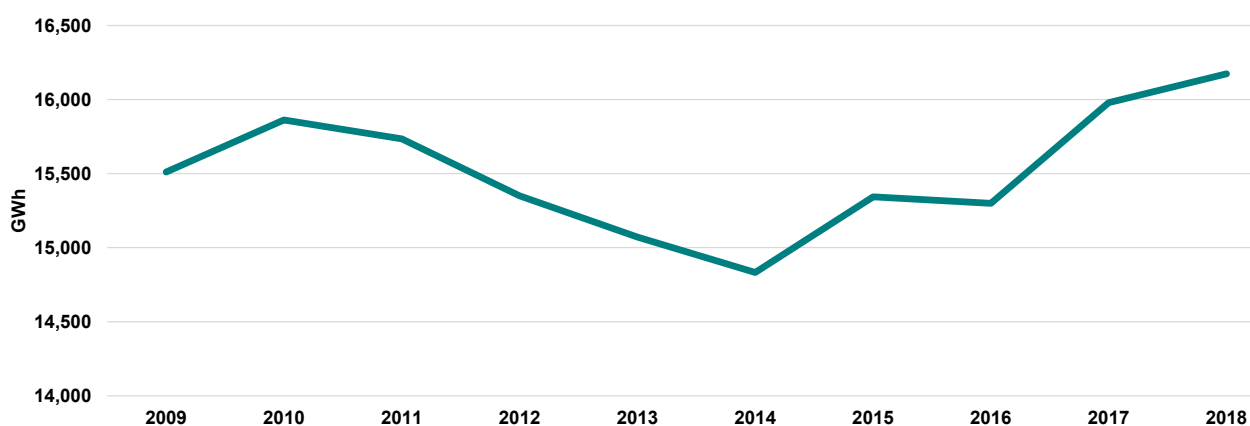
Note: The Rijeka oil-fired power plant is no longer operating, according to HEP's website, <https://www.hep.hr/proizvodnja/termoelektrane-1560/termoelektrane/te-rijeka/1562>, last accessed 31 March 2021.
Source: Energy Institute Hrvoje Požar, Energy in Croatia 2019; http://www.eihp.hr/wp-content/uploads/2021/01/1_Energija_u_Hrvatskoj_2019-2_compressed-1.pdf

Figure 1
Electricity generation in Croatia, 2010–2019



Source: IEA Statistics, <https://www.iea.org/data-and-statistics/data-tables?country=CROATIA&energy=Electricity&year=2010>

Figure 2
Electricity consumption in Croatia



Source: IEA Statistics, Electricity, <https://www.iea.org/data-and-statistics/data-tables?country=CROATIA&energy=Electricity&year=2009>

The residential sector is responsible for the highest share of total final energy consumption and has very high potential for improvements.⁸

The most common forms of heating for individual houses are wood (more than half of households) and gas (around a quarter).⁹ Fourteen towns and cities have district heating systems, with most of these running on gas, and the remainder on oil.^{10, 11}

Private road transport predominates for both passenger and goods transport. Public transport consists mainly of buses and coaches, with a share of 12.7 per cent of passen-

ger kilometres, and rail transport made up only 2.5 per cent of passenger kilometres in 2018.¹² The situation is somewhat better with freight, with rail accounting for 22.8 per cent of freight kilometres in 2019,¹³ but there is great room for improvement.

Croatia's INA, predominantly owned by the Croatian state and Hungary's MOL Group, extracts gas in the Adriatic Sea and oil and gas inland. Gas production declined significantly between 2015 and 2019, while oil production is in overall decline¹⁴ but rose temporarily from 2014–2018.¹⁵ From 2014 to 2016 the Croatian government intensified efforts to attract investors to increase oil and gas production,



causing widespread public outcry in this tourism-oriented country. In 2016 the government decided to stop new offshore drilling.¹⁶ However, opening new onshore fields is very much still a focus.

Croatia's net energy import dependence was 56 per cent in 2019, compared to the EU-28 average for the same year of nearly 58 per cent.¹⁷ Croatia's dependence has risen by almost 10 per cent since 2010, presumably due to decreased oil and gas production.¹⁸ In January 2021 a controversial¹⁹ new floating liquefied natural gas (LNG) terminal was inaugurated at Omišalj on the island of Krk,²⁰ signalling Croatia's continued interest in gas investments.

CROATIA'S ENERGY POLICIES

As an EU Member State, Croatia has to achieve decarbonisation by 2050. However, our respondents varied in their opinion on whether the government is truly committed to this. One felt that there is real commitment, while others were not convinced, pointing to the fact that much of the action in Croatia's strategic documents is postponed until after 2030.

Croatia's most prominent umbrella energy document is now its National Energy and Climate Plan (NECP),²¹ in which it has pledged to reduce greenhouse gases in the sectors included in the EU emissions trading scheme (ETS) by at least 43 per cent by 2030, compared to 2005, and in the non-ETS sectors by 7 per cent. It has also pledged to reach 36.4 per cent of renewable energy in gross final consumption and 13.2 per cent in transport. On energy efficiency, it has committed to limit primary energy consumption to 344.38 PJ in 2030 compared to 333.5 PJ in 2020, and final energy consumption to 286.91 PJ in 2030 compared to 281.7 PJ in 2020.²²

Croatia's NECP does not anticipate new fossil fuel capacity in the electricity sector, but it is also lacking ambition in terms of a fossil fuel phase-out, according to our respondents. No coal phase-out date is given in the selected scenario up till 2030, but in the existing measures scenario, it is expected to take place between 2035 and 2040.²³ Gas and oil production is expected to increase compared to the current situation until 2035/2040, although much of this relies on unpopular offshore extraction. The Ionian-Adriatic gas pipeline (IAP) is also planned to be built, representing a further lock-in of gas infrastructure.

Regarding renewable power, the NECP foresees the country's wind capacity to almost double by 2030, from 734 MW to 1,364 MW, and for its solar PV capacity to rise from 96 MW to 768 MW. It also anticipates more than 500 MW of new hydropower capacity, which seems ambitious considering the lack of new capacity added in recent years, as well as Croatia's relatively high percentage of surface area protected as part of the EU's Natura 2000 network (36.73 per cent).²⁴ Plans for the use of renewable energy in the heating sector still rely heavily on biomass, but more action

is planned to make use of solar thermal energy. However, planned expenditure in the heating sector overall is dwarfed by oil and gas investments up to 2030.²⁵

The country also has a wealth of other relevant strategic documents, including:

- The Energy Development Strategy of the Republic of Croatia until 2030 with an outlook to 2050, adopted in February 2020²⁶ after several years of delay.
- Draft Low-Carbon Development Strategy of the Republic of Croatia until 2030 with an outlook to 2050,²⁷ delayed in order to be aligned with the Energy Development Strategy.
- Climate Change Adaptation Strategy in the Republic of Croatia until 2040 with an outlook to 2070, adopted in April 2020.²⁸
- The Long-Term Strategy to Encourage Investment in the Renovation of the National Building Stock of the Republic of Croatia by 2050.²⁹

Overall, these are characterised by our respondents as talking the talk, but not walking the walk. In other words, the overall narrative is one of decarbonisation and renewable energy, but the concrete measures concentrate too much on shoring up fossil fuels. The NECP is seen as the more sanitised version – 'telling Brussels what it wants to hear', as one of our respondents put it – while the Energy Strategy is a more straightforward sign of Croatia's intentions to stick with expanding oil and gas production and transportation.

One of our respondents also pointed out that adopting the low-carbon strategy after the energy strategy has negatively impacted on its ambition levels, as the oil and gas industry was much more able to justify investments under the scope of the energy strategy than it would be able to under the low-carbon strategy, but the low-carbon strategy is now somewhat limited by the energy strategy.

The projected electricity demand was seen by one respondent as being largely in line with a lack of ambition on electrification of transport, while another respondent suggested the projections of GDP and industrial energy use might be unrealistic.

WHY IS CROATIA'S ENERGY TRANSITION NOT ADVANCING MORE QUICKLY?

Before looking in more detail at factors holding back Croatia's energy transition, it is worth underlining that Croatia is in a much more favourable starting position than many of its regional peers due to its low dependence on coal and lack of coal mining industry, so there is not such heavy domestic opposition to energy transition as there is in other nearby countries. This means that several of the factors

deemed important for respondents in other countries, such as lack of courage to stand up to coal mining unions, were not seen as relevant by our respondents in Croatia.

Similarly, the fact that Croatia has more wind and solar connected to the grid than its neighbours, has a relatively high level of electricity interconnections, and has to apply EU market rules, means that technical issues are no longer used as an excuse for limiting renewables development, as they were a few years ago.

But given these advantages, it is clear that Croatia's transition could be going much faster, so it is important to identify why this has not been the case so far and what could help to speed it up. The main overall theme seems to be a lack of political will; however, such a phenomenon usually has more concrete underlying reasons, which we will try to unpack below.

'Croatia is following the EU regulative framework, only at a slower pace of implementation. The fact is that Croatia has low... emissions due to hydropower and biomass and nuclear as main energy sources, it has very little energy-intensive industry and low effort-sharing goals, due to below-average GDP. Therefore, Croatia manages to have a certain progress in transition when compared to other southeast European countries.'

'I do think there is some sporadic kind of transition, but it's not connected to a certain type of strategy or policy that would guide us in terms of the measurable kind of steps where we want to be. It's kind of happening just on its own, you know, with many different pros and cons on the way.'

'The main issue is that we didn't roll out renewable energy as much as we could... But at the same time, we still have this opportunity to kind of really – when rolling out the bigger-scale renewables, that we include more of energy community models, which would then bring a more positive picture on our energy transition as a whole. And also, from the government perspective, I think this is not perceived as an important topic, only declarative.'

'If I could summarise in one sentence the strengths and weaknesses, the strength would be huge potential, the weaknesses, the lack of will and vision to use it... Yeah, especially solar – and wind also. When you look at the new energy strategy, it shows that the technical potential – of course, technical potential is not necessarily sustainable – but the technical potential only for solar and wind by far satisfies and over-satisfies the needs in Croatia.'

FALSE SOLUTIONS

All our respondents mentioned the promotion of gas in Croatia as a barrier to energy transition, both in terms of domestic production and transportation infrastructure being developed.

'What is a big worry here... is gas. Specifically gas being pushed as a transition fuel under the argument of national energy security. Claiming that we are importing energy, and we will solve that by increasing our own gas production... We had several big campaigns and one, we won against opening the Adriatic for new oil and gas. And then one which is pending... is three-fourths of continental Croatia being open for new oil and gas research...'

Unfortunately, in recent years gas in Croatia has received strong backing from the European Commission under the Projects of Common Interest (PCI) framework, as the recently-opened LNG terminal on the island of Krk was declared a PCI and received financing from the Connecting Europe Facility.³⁰

'... For the first time actually we have this kind of cross-national importance of some energy specific project that is argued very easily by the Croatian government. You know, "It's not us. It's money coming from Brussels. You see, this project is on Brussels' top priority list," and so on. I would say that those two gas processes are one of the main drivers of... [Croatia's] small ambition in terms of the climate goals, as well.'

'It's not that you can say, "Oh, there is no political will" and then you leave it at that... There's no political will because... of the gas lobby pushing strongly and things like that... The big picture debate now is the gas sector knowing its end is getting close and trying to grab as much as they can in terms of the future lock-in. Will it be 5, 10, 15 or 20 years? This is the fight now.'

STATE CAPTURE BY INCUMBENT UTILITIES, LACK OF TRANSPARENCY AND RULE OF LAW

Like most of its regional peers, Croatia's state-owned energy companies dominate the energy sector. And like its regional peers, HEP was slow to recognise the potential of solar and wind, instead spending years promoting outdated projects which ultimately failed, such as the Ombra hydropower project and the Plomin C coal power plant. However, while HEP is still developing some controversial projects such as the Kosinj hydropower plant, it has in recent years started to develop its own solar and wind projects.³¹ For this reason, HEP itself no longer appears to be a major barrier to energy transition per se, though it is still seen by at least one of our respondents as having an outsized influence on the government's decision-making.

However, Croatia's energy sector has certainly been influenced by special interests. Among the most well-known cases are former Prime Minister Ivo Sanader's decision to give Hungary's MOL controlling rights in Croatian oil company INA, in exchange for a EUR 10 million bribe. In a 2019 retrial, Sanader was sentenced to six years in prison for this.³²



All of our respondents mentioned the corruption scandal that broke in 2020 with regard to the Krš-Padene wind farm,³³ whose project promoter C.E.M.P. is owned by Lager d.o.o. Posušje, the same company that has been trying to build a coal power plant near Sanski Most in Bosnia and Herzegovina.

Former State Secretary Josipa Rimac is suspected of abusing her position to secure permits, certificates and contracts needed to build and put into operation the wind farm and to obtain feed-in tariffs even though the project had not met all the necessary conditions. This included asking Croatian Forests to urgently withdraw negative opinions and estimates of damage issued after technical inspections of the wind park, which were required for the company to obtain an operating permit. In return, C.E.M.P. would pay Rimac EUR 45 000 as commission for an insurance policy arranged by her sister.³⁴

The case was notable for being the first big corruption scandal surrounding a renewable energy project in Croatia, thus on one hand marking the 'coming of age' of wind power as a business just like any other, while at the same time threatening the public perception of renewables.

'There are obviously ways of doing things that have persisted for decades and the same interests are involved. And obviously the holders of those interests are not keen on... changing the way things are done. So that's what we believe is also influencing the slower pace of transition.'

'The old model just kind of multiplies itself, no matter what energy, technical solutions you provide.'

'We had a huge scandal related to wind energy, which turned out that two ministers and some other high-level people were involved in some corruption business related to development of a wind power plant. Which brings me to the conclusion that it is interesting for the government to have the projects, but in that way. Not only to ensure some public ownership or participation or whatever.'

'It's sad to see that alleged corruption is also taking place in the field of renewable energy, [whose] growth... we are supporting. But none of these large energy or large-scale investments taking place in this corner of the world is unfortunately free from corruption concerns... It has been like that in the past with our former Prime Minister being on trial for this INA MOL case. And it's just now, unfortunately, seems that it is happening with this first renewable case. So, I mean, we all have to, I guess, be paying attention to that.'

'There have been investigations and arrests related to wind feed-in tariffs, so corruption in the renewables' sector is very much a confirmed thing in Croatia. Of course, this is demotivating certain investors to [get] involve[d] in the market.'

'It's definitely a huge impact on the energy transition and on the image of energy transition in the public, because if green energy becomes related to corruption, then it's over. It's like game over. So, it's really critical...'

What Croatia also has in common with its regional peers is a widespread perception among stakeholders that the government is not open to their input, which results in unnecessarily problematic policies.

'On paper, all proposed legislation has to go through public consultation, but typically suggestions coming during that process are either rejected or ignored, with few exceptions. So, yes, there is this transparency and no, there is not really much space for real public consultation – I would say they usually go for that as a formality.'

'It's just a pity, you know, that there is no climate council or anything... cross-sectoral. There is on paper. If you ask the ministry, they will tell you it exists. And I'm sitting officially on one of them. But it never met for two years, right? So it's just unfunctional democracy.'

COMPLACENCY AND LACK OF UNDERSTANDING OF THE SPEED OF CHANGE

With its high share of hydropower electricity and widespread use of wood for heating, combined with the collapse of most energy-intensive industries in the 1990s, Croatia was well-positioned to meet its 2020 targets without undertaking major additional efforts. Its NECP indicates that it plans to continue delaying some issues, particularly tackling gas and oil, until after 2030 as well.

'All this combined led to a comfortable situation for the government to say, "Hey, look, our numbers look good, so we don't really need to..." – they're not saying that, but we think that's what's happening – "look, we don't need to do much..., we will deal with the transition when we have that on the priority list..." Having said that..., some shy steps have been taken in... recognising... the renewable energy potential, especially in solar energy.'

'I would say Croatia is very much kind of riding on the wave of not having big emissions out there and, comparatively speaking, also when having a fairly high share of renewable energy sources in its mix and that alone is showing good stats. But when you look at what it really means is that it's not some conscious policies... of the government that led to that...'

OUTDATED VIEW OF THE ENERGY SYSTEM AND LACK OF INTEREST IN CITIZEN ENERGY

One of the elements showing that Croatia's energy transition is somewhat more advanced than its peers is that the issue is no longer only about the quantity of renewables

but also about their quality. For the energy transition to succeed, and to be sustainable, the general public needs to be involved, both in decision-making and in implementing prosumer or community renewable energy projects. Despite the fact that various actors have been promoting these concepts in Croatia for several years, the government is not seen by our respondents as being interested in the opportunities for decentralised energy.

'... I would say the old energy sector mentality was applied to renewables, large-sized projects, heavily subsidised... There are multiple barriers for citizen energy projects and community energy as a concept, of a citizen having its own role in energy transition. And I would say this is being systematically blocked in all of the relevant strategies, 2030 up to 2050. We are hoping... the new [Clean] Energy for All [Package] transposition will be a step... to... provide more involvement of citizens, specifically in solar and wind.'

'In reality, there is no... clear sign... from the government side in supporting these types of models... – because if it's clear, then people will do it.'

'Croatia is shifting from an outdated concept, mainly in the electricity sector, and due to building regulations, there are changes in the heating/building sector in general. However, transport is lagging behind, modal shift and electrification is slower. Renewables are already contributing significantly so there's no disbelief in that sense, but there are other issues with renewables, like a legislative framework prone to large renewables, which assists existing levels of corruption.'

LACK OF GOVERNMENT CAPACITY

Overall, our respondents felt that there was not necessarily a lack of knowledge within the government about the latest developments in the energy sector and the potential for Croatia to advance its transition, but they did point to a lack of government capacity to implement real measures.

As one respondent pointed out, this might also be indicative of the level of priority given to energy transition by the government, so it may be an excuse rather than a cause, but whatever the cause, it is a factor that all respondents feel limits the progress being made.

'There is a huge undercapacity of experts within the ministry that is responsible for climate and energy. And that's definitely... an obstacle towards the energy transition.'

'It's not that they are generally lacking knowledge, since there are in all sectors several decision makers and legislative framework developers knowledgeable on the issues. But there are only a few. Others completely lack capacities and knowledge, so there is a high level of burden on the knowledgeable.'

'I wouldn't say a lack of knowledge. I would say a lack of capacity within the ministry to actually table a bold proposal and then implement it. And this cannot be disconnected from a lack of political will, because I always say that if there is political will, I mean, we have I would say quite a good base of young engineers and experts to implement... Lack of knowledge for me is an alibi, not a real argument for not having a bolder transition.'

'It's not like they don't have any knowledge on which renewable sources can be used, and specifying not only wind and solar but also geothermal. And it's not like they completely lack knowledge and expertise. It's just the part that they need to act on – it is missing.'

The fact that there have been relatively frequent changes of ministers and even ministries responsible for energy in recent years was also mentioned by some respondents as having slowed down various decision-making processes.

LACK OF POLITICAL WILL TO COOPERATE WITHIN THE REGION AND TO OPEN MARKETS

Croatia's import dependency means it is not as prone as some of its regional neighbours to aspire to being a regional energy hub, and its EU membership means that it does not have much choice about its level of market opening. However, our respondents varied in their opinions on whether there is sufficient regional cooperation going on. Certainly Croatia's half-ownership of the Krško nuclear power plant in Slovenia is an ongoing example of inherited cooperation which was cited by our respondents, but newer cooperation mainly seems to be in the fossil fuels sector rather than transition-related.

'I didn't actually see this type of thinking that we could either build something together or share some energy together or do some investments on the network together. I think it's very much... isolated, one from another.'

'I know that there has been cooperation between Croatia and Slovenia on – or at least announced... – the grid and transmission. On the other hand, you know, the truly regional projects, or projects with regional relevance, are unfortunately fossil fuel ones, such as the... LNG terminal and the Adriatic oil pipeline and stuff like that. I don't see much cooperation in terms of renewable energy or the more progressive side of the energy sector.'

One respondent mentioned that Croatia's foreign policy allegiances, namely the US and EU, probably have more influence than regional cooperation.

'I'm just thinking about LNG, but this is fracked gas coming from who knows where, Qatar or the US. So this is... more kind of being loyal to your American friends... I mean, this is as clear as day... When you see who [mentions] the name of the Krk LNG project, even



Trump, you know... But then again, foreign policy is also Brussels... And if Brussels puts some project on the PCI list then... it clearly goes beyond your national importance. And this... gives more justification to our government to actually push for that project.'

It was also mentioned that there are disparities within Croatia on energy transition, with some regions doing much better than others, and not much cooperation between them.

'This is partially an issue, but also bottom-up. Some regions are very progressive in transition, others are not and do not even have an energy agency.'

LEGAL BARRIERS

Poor implementation of EU legislation was not singled out by our respondents as a strong element hampering energy transition in Croatia. Rather, they view Croatia as a country which does just enough to get by. There are undoubtedly some issues, such as the European Commission sending a letter of formal notice to Croatia in May 2020 for failure to properly apply the Habitats Directive with regard to wind projects,³⁵ but these are not seen as key barriers to transition. Apart from the EU's support for the Krk LNG terminal, overall the EU is seen as having a positive influence on Croatia's energy transition.

'... Right before we were joining the European Union, it was a period where the influence was made even stronger because it was a period to align the national legislation to EU legislation and, you know, to make some steps in order to become a member of the European Union. But what's happening now is that basically... we kind of do follow the lingo, but in case we don't need to go above the minimum requirements, we won't.'

'...We wouldn't maybe even get to where we are if there was no joint Brussels agenda, joint EU Green Deal agenda, and I think this can be very useful for us, the civil society, you know, in saying... "But we have clear decarbonisation goals and you can't do that." So, there is kind of some string, some leverage in that context. But then again, you never know.'

What our respondents did draw attention to, however, was some legal barriers in the national legislation that are hampering the development of community energy.

'For example, when it comes to multi-apartment buildings, then we still do not have any legislation in place which would enable each tenant – each member of the apartment [building] – to get the benefit of solar energy. That's definitely the missing thing which does not enable this collective self-consumption, which is very important... [A]lso, a definition of energy communities is missing...'

WHAT IS NEEDED TO OVERCOME THE BARRIERS TO A SUSTAINABLE ENERGY TRANSITION IN CROATIA? WHICH ACTORS CAN PLAY A ROLE IN MOVING FORWARD THE SUSTAINABLE ENERGY TRANSITION IN THE COUNTRY?

The overall directions which need to be covered are outlined below, together with different steps necessary to achieve them and an outline of which actors could play a particular role. However, there are also a number of horizontal needs which need to be pursued in order to enable better decision-making on energy issues, which are also outlined below. All these need to be pursued simultaneously in order to advance Croatia's energy transition at a bolder pace.

HORIZONTAL NEEDS

- Croatia's government needs to give much greater priority to energy transition and recognise it as an opportunity rather than an obligation. This also implies increasing capacity at the Ministry for Economy and Sustainable Development by making sure all the people employed are sufficiently knowledgeable and that a sufficient number of staff is dedicated to this topic.
- The same goes for the local level – each local authority needs to have a sufficient number of competent staff to drive forward energy transition opportunities.
- Much more public dialogue is needed about energy transition and in particular the role of citizen energy. While the Ministry for Economy and Sustainable Development needs to show greater willingness to drive this aspect of transition forward, non-governmental organisations (NGOs) and independent experts can play a strong role in ensuring this happens and communicating with the public, as well as reaching out to non-traditional allies like trade unions and others who should have an interest in the quality of the transition taking place.

'It would be very useful for the transition if there were more experts... actually coming out and giving some... wind in the back for all those that are calling for a faster transition. You can actually name like two or three scientists that are very loud against gas, but then that's pretty much it.'

'If you see it as just transition from fossil to renewables, I have no doubt that this will happen and we will be successful in this... It is... just a matter of the speed... But if we are seeing the energy transition as large, I think it should and must engage citizens and communities into the ownership part of that. Then I would say it's not that obvious. We need to fight for that to become an integral part of energy transition. That's our job.'



'There is not this critical mass for creating some change... I really think that there is this need to... encourage and inform, educate, and bring some potential solutions to people..., to really see the opportunity of this energy transition. Because if that's something that will result in benefits to some... small percentage of the people... then there's no way that this will become some crucial thing for the government... This community impulse, that should be much, much stronger to enforce these changes.'

'In terms of the other actors, I do think the unions could do much more in terms of being much more natural allies in different public advocacy campaigns... in the context of job opportunities.'

- As our respondents mentioned both a lack of government willingness to listen during public consultations and a lack of government capacity, it would clearly make sense to find better ways to make use of the knowledge that clearly exists outside of government institutions, both within formal consultation processes and outside. One respondent also suggested that given HEP's dominant role in the electricity sector, more citizen oversight of the company would help to steer it in the right direction.

'What should also be quite a strong element of the transition is democratisation..., and citizen [oversight] and transparency in decision-making in the biggest national energy utility in terms of citizen representation in tailoring their policies.'

MAIN DIRECTIONS FOR ENERGY TRANSITION

1. Develop a long-term, ambitious vision.

More energy policy documents might seem to be the last thing Croatia needs at this point; however, with the EU's plans to upwardly revise its 2030 targets, it will need to revise its NECP anyway. Even before that, it should start by revising its long-term low-carbon strategy to fully align with the EU Green Deal objectives and seize the opportunity to have a real debate about Croatia's energy future. The policies put in place need to be ambitious enough to survive beyond the next election cycle and need to be in line with full decarbonisation by 2050 at the latest. Clear phase-out dates for coal, nuclear, oil and gas are needed, and efforts on energy efficiency need to be further increased.

'... There should be a consensus among the main political players about where our future lies. There should be consistency in the government's policies to build upon that strategy and to be unmovable in terms of pushing it through... First step: political will, political decision. Then... we would need to align all the strategies with this decision... And... now we have this opportunity for a green recovery deriving from the funds that will be allocated to EU countries... There's basically no excuse not to start now.'

'There is a need to revise and adjust the Long-term Low-Carbon [Development] Strategy to the European Green Deal and to align all the other strategies with the low-carbon one.'

'Across all of the strategies that we mentioned... governments [need to be] recognising that this transition not just can be, but will and has to be also some type of development opportunity and..., in the context of recovery, that... we should... not deepen one more kind of crisis that will be bigger than this one, in terms of the climate.'

'... [I]t would be fantastic if they finally realised it's also a good thing for green jobs creation and for energy independence because... talking about energy independence with importing coal... for the only coal power plants, it's crazy...'

2. Make the most of Croatia's citizen energy potential and mobilise local authorities and businesses.

Regular large renewable energy projects are generally making headway in Croatia and should continue to do so, but our respondents identified some concrete needs in relation to citizen energy, in particular regarding legal barriers and incentives. While the government clearly has the ultimate responsibility for changing legislation, NGOs and existing citizen energy projects clearly have useful experience and proposals to share, which the government should make more use of. In addition, one respondent mentioned that HEP could do more to enable grid access for prosumers.

'Having this definition of energy communities, having this collective self-consumption legislation in place, would definitely be needed and helpful in that process. Then, from the technical side, also this Croatian public utility which is owning the whole grid and network should do a better job in accepting the new technologies and new systems.'

'... If you really have in place some good legislation which is favouring this type of movement, then it's much easier to mobilise the people and to offer the real business case, which is crucial for doing anything. And so, having these few pieces in place could completely change the base of this transition.'

Knowledge barriers remain a problem, and there remains a clear need to make sure people are better informed about citizen energy opportunities. Certainly more could be done by central and local governments on this issue, but there is certainly a role for NGOs and other experts who have their own experience of setting up decentralised systems.

'... There is still a lack of motivation and a lack of knowledge, lack of education, of people, of citizens, on how to become owners of some systems. What is needed? How much does it cost? How can I do it? What do I need? And then also on the community side, because



the municipalities, the cities, do not have that perspective usually. There is the need to address this... and then understanding how to do it and what could be the benefits of joining together to invest into something or to develop something.'

'I think it's crucial to present some cases, to present the... business models... There are many potential places where you see that there is the interest..., but there is this missing element on what exactly [to] do... We [need to] create a... clear picture for that – for example: "Join this cooperative because if there are more of us, then we can achieve a higher savings in buying equipment or doing the projects" ... And I'm sure that we can easily then find many... local people who would be interested to speed up this process.'

'For example, two months ago we started a solar club in Croatia... as a very informal platform... with many other organisations and partners, and in two months it attracted about 1,000 members in the group. And most of the people who joined the group stated the reason of getting a solar system cheaper than it would be otherwise. So... if there is this good argument and good financial perspective behind [it], then there's no reason why people wouldn't do that and join this type of movement.'

Our respondents agreed that local governments and businesses can and must play a key role in Croatia's energy transition, pointing out that Croatia already has some good examples in this field. This potential exists to a large extent, irrespective of whether or not the central government becomes more ambitious in its goals.

'Municipalities and cities... also have a good position because they are pretty much autonomous on this local level. And, if they are really serious on this, they have all the necessary tools to accelerate this project. And then in parallel, this creates the opportunities for some collective organisations such as cooperatives... But this would create this critical mass.'

'Local governments, progressive local governments can be [champions of energy transition] – they are still kind of shy, but there are some shining examples in Croatia – the island of Krk, for example, is one of them.'

'I believe that there will be more and more examples in Croatia like that when local communities, especially if they find resources – and maybe European funds will help with that – when they realise that there is real potential in this. And then a critical mass of such local... initiatives can also then be pressure on the central government to be more progressive...'

'Regional energy agencies with local communities could do a real transformation bottom up. This could be also with the national power and energy company HEP, owning the power plants and distribution.'

'I would [put] cities and municipalities at the first and the central place of this transition. And we do have some positive examples. For example, Križevci city did a very interesting crowdfunding campaign for making the first publicly owned, community owned solar power plant. And actually, we want to celebrate that example and multiply it on hundreds of other cities or islands... I don't have to mention how many sun hours we have... and the fact that Maribor city has more installed solar capacity than the whole of Croatia...'

'I think many of the small businesses and faculties and factories can really be a good foundation for fast energy transition in terms of the local knowledge, local production. Of course, not local material sources, which would have to be imported, of course. But we have a good solar company that sold 100,000 solar panels to Google a few months ago. We have this guy, Rimac, which is like the top global electrical car producer.'

3. Do more to advance a cross-sectoral transition.

So far, Croatia's transition is starting to happen in the power sector and to a much smaller extent in the heating sector, but much more needs to be done in other sectors, for example in transport and in creating a circular economy that would not only be resource-efficient but also energy efficient. One of our respondents also called for more imagination to be used in ensuring that publicly-owned companies can contribute to the transition. Suggestions on how to do this in the railway sector have been put forward by the Institute for Political Ecology,³⁶ which, if applied, could significantly contribute towards improving Croatia's rail system.

'And then, of course, some publicly owned companies, recognising alternative development scenarios for them not to shut down, but to requalify production and then be useful in something that will be maybe an important carrier of jobs... And then waste, of course, the whole circular economy and zero waste sector, which needs to recognise the whole closed circle of materials not being dumped, but they need to circulate and also play a role in the transition.'

4. Avoid being distracted by unsustainable energy sources such as oil and gas, new hydropower, or unproven/unavailable technologies such as renewable hydrogen.

Croatia's main Achilles heel seems to be oil and gas extraction and transportation. In the power sector, there is also a significant amount of gas-fired power plants which will have to be phased out in the coming years. The policy review processes mentioned above need to stop assuming that new oil and gas extraction will take place and halt new investments in gas transmission infrastructure, in line with what is needed to achieve decarbonisation before 2050.

Croatia is certainly not the only EU country which is clinging to the hope that it can continue to rely on gas, and this belief is unfortunately being perpetuated by the contradictory messages coming from the European Commission on this issue. Although a slow switch away from outright promotion of gas can be detected at the EU level, there is a strong threat from trends such as hydrogen and renewable gas, which purport to offer alternatives, but may end up merely reinforcing the use of fossil gas. If insufficient amounts of renewable gas or renewable hydrogen are available, which seems highly likely, judging by today's production capacities, fossil gas will continue to be used due to the availability of infrastructure.

ENDNOTES

- 1 Eurostat, (DEMO-GIND), data for 1 January 2020; <https://ec.europa.eu/eurostat/databrowser/view/tps00001/default/table?lang=en>.
- 2 HEP Proizvodnje website, last accessed 17 February 2021; <https://www.hep.hr/proizvodnja/>.
- 3 Eurostat, NRG_IND_REN, last accessed 12 April 2021; https://ec.europa.eu/eurostat/databrowser/view/nrg_ind_ren/default/table?lang=en.
- 4 European Commission, Energy Efficiency Targets, last accessed 1 April 2021; https://ec.europa.eu/energy/topics/energy-efficiency/targets-directive-and-rules/eu-targets-energy-efficiency_en.
- 5 European Commission: Report from the Commission to the European Parliament and the Council, 2019 assessment of the progress made by Member States towards the national energy efficiency targets for 2020 and towards the implementation of the Energy Efficiency Directive as required by Article 24(3) of the Energy Efficiency Directive 2012/27/EU, 20 July 2020; <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52020DC0326&from=EN>.
- 6 European Environmental Agency, Trends and Projections in Europe, EEA Report No 13/2020; <https://www.eea.europa.eu/publications/trends-and-projections-in-europe-2020>.
- 7 International Energy Agency, Total energy supply (TES) by GDP, Croatia, 1990–2018, IEA Data and Statistics, last accessed 1 April 2021; <https://www.iea.org/data-and-statistics?country=CROATIA&fuel=Energy%20transition%20indicators&indicator=TPESbyGDP>.
- 8 International Energy Agency, Share of total final consumption (TFC) by sector, Croatia, 1990–2018, IEA Data and Statistics, last accessed 1 April 2021; <https://www.iea.org/data-and-statistics?country=CROATIA&fuel=Energy%20consumption&indicator=TFCbySector>.
- 9 Euroheat and Power, District Energy in Croatia, 15 November 2019; <https://www.euroheat.org/knowledge-hub/district-energy-croatia/>.
- 10 Celsius city, A new era for heating in Croatia, 13 December, 2019.
- 11 In the other country case studies we have used IEA data on heat production; however, in the case of Croatia there is a large discrepancy between IEA and other data sources.
- 12 Eurostat, Table [tran_hv_psmo], 2018 data; https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=tran_hv_psmo&lang=en.
- 13 Eurostat, Table [tran_hv_frmo], 2019 data; http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=tran_hv_frmo&lang=en.
- 14 MOL Group, Croatia, last accessed 1 April 2021; <https://molgroup.info/en/our-business/exploration-and-production/croatia>.
- 15 Energy Institute Hrvoje Požar, Energy in Croatia 2019, January 2021, 49; http://www.eihp.hr/wp-content/uploads/2021/01/1_Energija_u_Hrvatskoj_2019-2_compressed-1.pdf.
- 16 For more details see the SOS Adriatic campaign's facebook page: <https://www.facebook.com/soszajadran/>.
- 17 Eurostat, Energy Dependence %, Table T2020_RD320, last updated 8 February 2021; https://ec.europa.eu/eurostat/databrowser/view/t2020_rd320/default/table?lang=en.
- 18 Eurostat, Energy Dependence %, Table T2020_RD320, last updated 8 February 2021; https://ec.europa.eu/eurostat/databrowser/view/t2020_rd320/default/table?lang=en.
- 19 For more information see Zelena akcija, Against LNG!, last accessed 1 April 2021; https://zelena-akcija.hr/en/programmes/climate_change/against_lng-more.
- 20 European Commission Innovation and Networks Agency, First Croatian LNG terminal officially inaugurated in Krk island, 29 January 2021; <https://ec.europa.eu/inea/en/news-events/newsroom/first-croatian-lng-terminal-officially-inaugurated-krk-island>.
- 21 Republic of Croatia, Ministry of Environment and Energy, Integrated National Energy and Climate Plan for the period 2021–2030, December 2019; https://ec.europa.eu/energy/sites/default/files/documents/hr_final_necp_main_en.pdf.
- 22 Republic of Croatia, Ministry of Environment and Energy, Integrated National Energy and Climate Plan for the period 2021–2030, 62; https://ec.europa.eu/energy/sites/default/files/documents/hr_final_necp_main_en.pdf.



- 23 Republic of Croatia, Ministry of Environment and Energy, Integrated National Energy and Climate Plan for the period 2021–2030, 58 and 188; https://ec.europa.eu/energy/sites/default/files/documents/hr_final_necp_main_en.pdf.
- 24 Republic of Croatia, Sixth National Report to the Convention on Biological Diversity, 31 October 2019; <https://chm.cbd.int/database/record?documentID=248300>.
- 25 Republic of Croatia, Ministry of Environment and Energy, Integrated National Energy and Climate Plan for the period 2021–2030, 229; https://ec.europa.eu/energy/sites/default/files/documents/hr_final_necp_main_en.pdf.
- 26 Strategija energetskog razvoja Republike Hrvatske do 2030. s pogledom na 2050. godinu, Official Gazette No. 25/2020; https://narodne-novine.nn.hr/clanci/sluzbeni/2020_03_25_602.html.
- 27 Nacrt prijedloga Strategije niskouglijasnog razvoja Republike Hrvatske do 2030. s pogledom na 2050. godinu; https://mingor.gov.hr/Us-erDocsImages/klimatske_aktivnosti/odrzivi_razvoj/nacrt_prijedloga_strategije_niskouglij_razvoja.docx.
- 28 Strategija prilagodbe klimatskim promjenama u Republici Hrvatskoj za razdoblje do 2040. godine s pogledom na 2070. godinu, Official Gazette No. 46/2020; https://narodne-novine.nn.hr/clanci/sluzbeni/2020_04_46_921.html.
- 29 Odluka o donošenju Dugoročne strategije obnove nacionalnog fonda zgrada do 2050. godine, Official Gazette No. 140/2020; https://narodne-novine.nn.hr/clanci/sluzbeni/2020_12_140_2704.html.
- 30 Connecting Europe Facility, Energy grants, State of Play, June 2019; https://ec.europa.eu/inea/sites/inea/files/cefpub/cef_energy_fact-sheet_hr.pdf.
- 31 For more information, see HEP, Unintegrated solar power plants, <https://www.hep.hr/projects/renewable-energy-sources/unintegrated-solar-power-plants/3423>, last accessed 1 April 2021; HEP, Korlat Wind Farm, <https://www.hep.hr/projects/renewable-energy-sources/korlat-wind-farm/3471>, last accessed 1 April 2021.
- 32 HINA, Sanader gets 6, Hernadi 2 yrs pending appeal in INA-MOL case, *N1*, 30 December 2019; <https://hr.n1info.com/english/news/a471630-sanader-gets-6-hernadi-2-yrs-pending-appeal-in-ina-mol-case/>.
- 33 Igor Todorović, High-profile arrests in Croatia highlight claims of corruption in renewables in region, *Balkan Green Energy News*, 5 June 2020; <https://balkangreenenergynews.com/high-profile-arrests-in-croatia-highlight-claims-of-corruption-in-renewables-in-region/>.
- 34 HINA, USKOK launches investigation into 13 officials, business people, *N1*, 30 May 2020; <https://hr.n1info.com/english/news/a513528-uskok-launches-investigation-into-13-officials-business-people/>.
- 35 European Commission, May infringements package: key decisions, 14 May 2020; https://ec.europa.eu/commission/presscorner/detail/en/inf_20_859.
- 36 Tomašević et al, Naše Željeznice, analiza upravljanja željezničkim uslugama u Hrvatskoj uz komparativni pregled zemalja, *Institut za Političku Ekologiju*, 2020; http://ipe.hr/wp-content/uploads/2020/07/IPE_Nas%CC%8Ce_Z%CC%8Czeljeznice_WEB.pdf.



KOSOVO





ENERGY SECTOR OVERVIEW

Kosovo, with around 1.8 million people,¹ has the most coal-dependent power supply in the Western Balkans. Its electricity sector is dominated by the state-owned power utility, the Kosovo Electricity Corporation (*Korporata Energjetike e Kosovës* (KEK)). KEK has two ageing coal plants, Kosova A, with three operating units, and Kosova B, with two units.² In 2019 these plants together generated almost 95 per cent of Kosovo's domestically generated electricity.³

For many years Kosovo was planning a new 500 MW⁴ coal power plant, Kosova e Re, which was cancelled in March 2020. However, in December, KEK commissioned a feasibility study on the rehabilitation of thermal power plant Kosova A, which would in effect be a complete new plant, given the existing one's age.⁵

Solar is advancing slowly, with an estimated 10 MW online at the end of 2019. Wind has fared somewhat better, with the 32.4 MW Kitka wind farm online since 2018⁶ and the 105 MW Bajgora plant currently under construction.⁷

Despite Kosovo's relative lack of water resources, it has suffered from the same controversies over small hydropower plants as its neighbours in recent years.⁸

Kosovo's electricity generation capacity is able to almost meet domestic demand most years, but there are problems with the network and the inflexibility of generation due to its reliance on coal, leading to an unstable supply. A new transmission line linking Kosovo with hydropower-dependent Albania will help to introduce some flexibility into the system while both countries work on diversification.

Electricity consumption remained relatively constant between 2010 and 2018 in Kosovo, despite projections that it would grow significantly. Kosovo's 2009 Energy Strategy⁹ expected demand of 6,939 GWh in 2018 in the medium demand scenario, whereas in reality demand amounted to 4,398 GWh.¹⁰

A specific issue in Kosovo is the use of electricity by customers in the north of the country without paying for it. For years the losses were billed to customers in the rest of Kosovo, but a court ruling put a stop to this practice in 2018, leaving it unclear how the losses were actually being covered.¹¹ The issue came to a head in March 2018, when some digital clocks across Europe started running slow due to electricity being missing across the grid after Serbia's EMS failed to balance Kosovo's consumption, according to the European Network of Transmission Operators, ENTSO-E.¹² In April 2020 Kosovo's transmission operator signed an agreement with ENTSO-E to leave the Serbia, Montenegro and Northern Macedonia Regulatory Bloc to join a new Kosovo-Albania Energy Regulatory Block, thus paving the way for participation in the power exchange with Albania.¹³

Kosovo undertook commitments to increase the share of renewable energy – for total final energy consumption, not just electricity – under the Energy Community Treaty to 25 per cent by 2020, compared to 18.9 per cent in 2009.¹⁴ It also made a voluntary commitment to a target of 29.47 per cent. By 2019, it had reached 25.7 per cent,¹⁵ but mainly due to revision of biomass data rather than new investments.

To meet its binding 25 per cent target, Kosovo initially only planned 5 MW of installed solar capacity by 2020 and 62 MW of wind capacity, but 97 MW of new small hydropower (under 10 MW) and 305 MW of new large hydropower.¹⁶

The main differences in its plans for the 29.47 per cent target were that it planned more wind farms – 150 MW in total – and more small hydropower plants – around 240 MW in new plants.¹⁷

In 2017, the government issued an Administrative Instruction containing a new voluntary target and the adjusted capacities that would be required to meet it.¹⁸ This included even more small hydropower – almost 280 MW of new plants. It also revised solar upwards to 30 MW and biomass for electricity to 20 MW.¹⁹

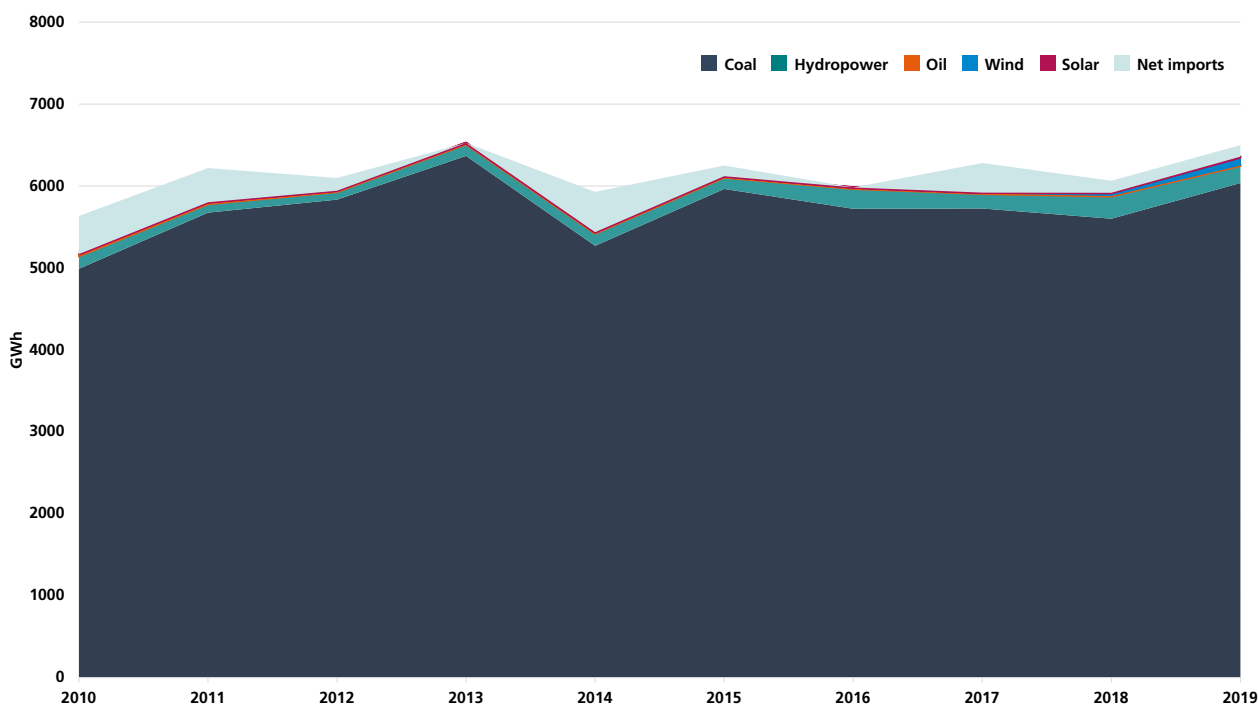
In the meantime, it has also become clear that the original plans for the Zhur hydropower plants are not likely to hap-

Table 1
Installed capacity of electricity generation facilities in Kosovo, 2019

Energy source	Installed capacity, 2019, MW	Per cent
Coal	1,288	90
Large hydropower	35	2.4
Small hydropower (under or equal to 10 MW)	64.07	4.5
Wind	33.75	2.4
Solar	10	0.7

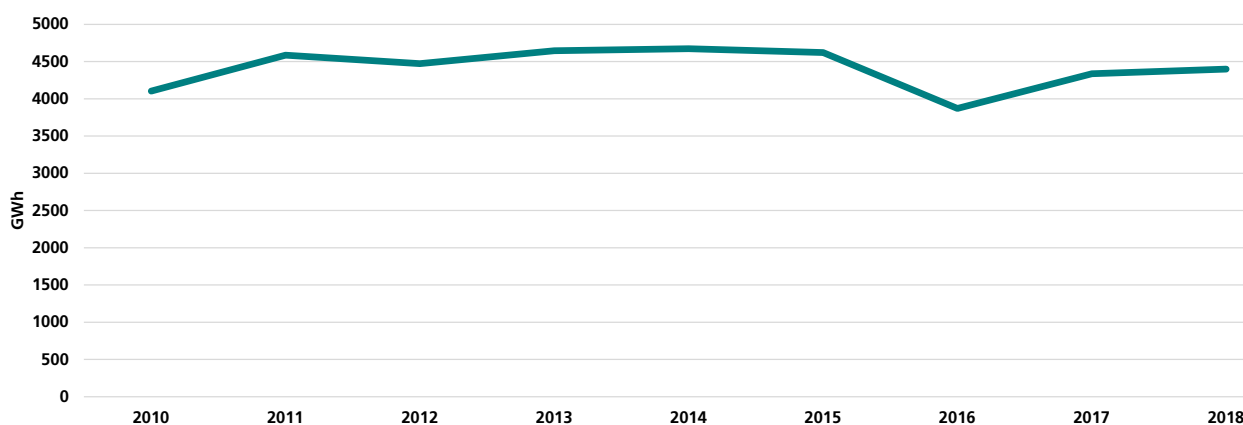
Source: Energy Regulatory Office Annual Report 2019, [https://www.ero-ks.org/zrre/sites/default/files/Publikimet/Raportet/Vjetor/Annual Report 2019_ERO.pdf](https://www.ero-ks.org/zrre/sites/default/files/Publikimet/Raportet/Vjetor/Annual%20Report%202019_ERO.pdf)

Figure 1
Electricity generation in Kosovo, 2010–2019



Source: IEA Statistics, <https://www.iea.org/data-and-statistics/data-tables?country=KOSOVO&energy=Electricity&year=2010>

Figure 2
Electricity consumption in Kosovo



Source: IEA Statistics, Electricity, <https://www.iea.org/data-and-statistics/data-tables?country=CROATIA&energy=Electricity&year=2009>

pen any time in the near future. They would have significant transboundary impacts regarding water flow to Albania. Also, several existing plants in Albania would impact on the amount of water reaching the Zhur plants.²⁰

In 2018 Kosovo updated its National Renewable Energy Action Plan to remove the Zhur plants and slightly increase its wind ambitions to 173.8 MW.²¹

In reality, around 50 MW of new hydropower under or equal to 10 MW had been built by the end of 2019, with some old plants also renovated.²² Seeing the controversy even this amount has caused, 97 MW seems completely unrealistic, not to mention 280 MW.

Like its peers, Kosovo uses energy inefficiently – it is four times as energy-intensive as the EU average.²³ Energy prices are kept artificially low for end consumers and there is therefore little incentive to use energy sparingly or invest in insulation. The residential sector is responsible for the highest share of total final energy consumption and has massive potential for improvements.²⁴

Losses in the transmission network are at 1.25 per cent, but technical losses in the distribution network amount to 12.84 per cent. Unauthorised energy consumption (commercial losses) accounts for 13.04 per cent of the distribution demand, of which northern Kosovo makes up 5.53 per cent.²⁵



The most common forms of heating for individual houses are wood and electricity, with shares of 46 and 44.9 per cent respectively in 2015.²⁶ Prishtina, Gjakova, Mitrovica and Zvecan have district heating systems, but these only cover about 3 to 5 per cent of heat demand.²⁷ In Prishtina, the heating plant was based on heavy fuel oil until cogeneration started at unit B1 of the Kosovo B power plant; the plant in Gjakova still uses heavy fuel oil, but a new biomass cogeneration plant is planned.²⁸ In North Mitrovica the heavy oil-fired plant only supplies public buildings, not households, due to a lack of investment in the main pipeline,²⁹ while little information is available about the system in Zvecan.

Data on transport in Kosovo is scarce.³⁰ However, private road transport predominates for both passenger and goods transport.

One of the reasons why Kosovo is so coal-dependent is its reserves of lignite. It is often cited as having the fifth largest coal reserves in the world.³¹ It has no oil or gas extraction, though periodically, plans to carry out controversial and largely unproven underground coal gasification (UCG) are pushed.³²

Kosovo's net energy import dependence was around 30 per cent in 2019, compared to the EU-28 average for the same year of nearly 58 per cent.³³ This reflects the use of domestic lignite for electricity generation and the fact it has no gas import pipelines.

KOSOVO'S ENERGY POLICIES

As Kosovo plans to join the EU, it needs to achieve full decarbonisation by 2050. Kosovo confirmed this intention by signing the Sofia Declaration in November 2020, which includes a commitment to adopt the EU's Climate Law.³⁴ However, our respondents are not convinced that this pledge has been taken seriously and it remains to be seen in Kosovo's forthcoming energy policies.

Until 2020, Kosovo's energy policies had for more than a decade been centred around plans to build a new coal power plant, whose most recent version was a plant of around 500 MW called Kosova e Re. However in March 2020, having failed to find financing for the plant, concession-holder ContourGlobal cancelled the project, citing government antipathy towards the project. In reality, it was the nature of the contract which was the deal-breaker for many politicians in Kosovo, as it provided immense benefits to ContourGlobal at a great cost to the Kosovar state and bill-payers.³⁵

This means that all previous plans such as the 2017 Energy Strategy are now completely out of date and that Kosovo has an opportunity to change course completely and speed up its transition.

Kosovo's National Renewable Energy Action Plan, which was only valid until 2020, is also out of date, so new plans

need to be made as soon as possible in the form of an NECP. As of May 2021, Kosovo has not yet set 2030 climate, energy efficiency and renewable energy targets, nor has it published any draft National Energy and Climate Plan (NECP).

According to the Energy Community Secretariat's Transition Tracker, Kosovo has a working group for NECP development and some chapters have been drafted, but no documents have yet been submitted to the Secretariat for comments,³⁶ and no public consultations have been held. Kosovo is also reportedly working on a new Energy Strategy, but no draft is available yet.

The political instability of the last year, with two changes of government, makes it rather unclear what direction Kosovo's energy policy will now take. This crossroads certainly presents an opportunity to finally start breaking its addiction to coal, but political courage will be required.

WHY IS KOSOVO'S ENERGY TRANSITION NOT ADVANCING MORE QUICKLY?

STATE CAPTURE, LACK OF TRANSPARENCY AND RULE OF LAW

State capture is certainly an issue in Kosovo, but not only by the incumbent utility KEK. No one watching the Kosova e Re story unfold for the last few years can have failed to ask themselves how it came to be that the Kosovo government signed a power purchase agreement with ContourGlobal that was so massively detrimental to the Kosovo state and so beneficial to ContourGlobal.³⁷

There is no question that Kosovo decision makers very much wanted a new coal plant and did not see any alternative, as many people in Kosovo clearly perceive its coal reserves as a rich resource that has to be used. For many years they had also been heavily supported in this by institutions like the World Bank, which however ended up pulling out of the project less than a year after the power purchase agreement was signed,³⁸ and had been rumoured to be getting cold feet long beforehand. But the question is why the Kosovo government signed this particular, spectacularly unfavourable deal.

Whether it was due to pressure from the United States government, outright corruption, naivety or desperation, we may never know, but the fact remains that for more than a decade, this project has dominated Kosovo's energy policy agenda and crowded out other options.

'Due to the international community's support, and in this case, the US support mainly, in exploiting [Kosovo's coal reserves] – that's why the energy transition hasn't been a priority.'

'Lack of transparency, definitely, and corruption as well. Both of them are very important elements. As we had entire processes, major ones, being pushed through

without public discussion. And then again, you can always link them to the interests, certain interests of certain individuals within the policymakers and government institutions.'

Another recent case concerns small hydropower, in which Austria's Kelag appears to have been exerting considerable pressure on the Kosovar government to allow its plants to operate even though they have caused considerable damage and not met the relevant conditions.³⁹ Initially this resulted in the Energy Regulatory Office allowing the plants to operate, but the decision was overturned by the court in December 2020 and the Belaja and Decan plants had to be disconnected from the grid.⁴⁰ Worryingly, instead of fixing the problems the company has continued to blame the messengers, and in February 2021 it initiated a lawsuit against an environmental activist for EUR 100 000 worth of alleged damages,⁴¹ representing a further attempt to decrease public debate and transparency around the issues.

Even the nascent solar sector has not been immune from corruption issues, as a *Prishtina Insight* investigation showed in June 2020. While the rules in Kosovo stipulate that no single investor can produce more than three megawatts of solar energy, it was revealed that one man – Blerim Devolli – stands behind six companies awarded rights to produce a total of 16.7 MW.⁴² As one of our respondents pointed out, this is not only illegal but it also discourages other investors.

'It's sort of a monopolisation of solar through corruption and through using approaches that are illegal... So those false solutions should be addressed, first of all, because they're illegal, second, because it really discourages both foreign investors and local small businesses that might want to take up some share of the market in order to start having more competition. Small solar companies want to be able to compete for these feed-in tariffs and other incentives the same way that a large company that has a monopoly in a lot of sectors is competing.'

'A couple of American investors were interested in renewable energy investments in Kosovo. [They] required my advice. We started conversations with another local company in Kosovo. They were very discouraged in the end that their company could not integrate into the Kosovo market, just because there were the bureaucratic processes. In addition, processes to acquire renewable energy certificates were highly politicised. The solar scandal where one man was behind six companies that benefited from government incentives was a clear signal to discourage investments. We are losing opportunities day by day because of that, and that has a name and it's corruption.'

As a precondition for avoiding vested interests and taking good quality policy decisions, access to information is also crucial, but is clearly an issue in Kosovo, including in the field of environmental information. Kosovo is not a signatory to the Aarhus Convention, but still its membership in

the Energy Community should guarantee access to, and public consultation of, certain documents, particularly environmental impact assessments.

However, there was no public consultation at all for the environmental impact assessment for the Kosova e Re project⁴³ and a 2015 WWF report author was not even able to access environmental impact assessment for hydropower plants on request.⁴⁴ Other access to information problems were also mentioned by one respondent as a barrier to good quality policymaking.

'I was just looking at the ERO data that they have published. So if you can imagine, you have just an average price imported and how much. If you open the data, then you open the whole data, not just average price per year. Because it... doesn't mean anything. So from my perspective, you're still hiding something.'

Accountability is also a clear problem, as in all the countries in the region, as there are often no consequences for those who make decisions that are harmful to e.g. public budgets, public health or the environment. Courts are seen to lack independence as well as being too slow to be an effective tool in ensuring accountability in public policy decisions.

'[As long as] there are no courts... that are very much stricter and judges that are not linked to politics, that will continue to be a problem... Even judges are highly linked to stakeholders or people in power. And... they serve them and [as long as] the pace of unfolding cases in courts takes this long, that's going to be a problem... There needs to be faster courts and not something... being judged after five, six years, because then there is totally new momentum or these people are running from the country or whatever.'

'...We've sued the institutions for not giving us access to public documents and we were given the right to have those documents. But... because the courts took so long to take a decision on our case, it was just too late... For example, we've won two cases in the court against the... line ministry for energy. One was about privatisation of the distribution system. And we just got the right to have access to those documents after the company got the distribution system and they were operating it, so it was then too late to turn things back.'

OUTDATED VIEW OF THE ENERGY SYSTEM, LACK OF UNDERSTANDING OF THE SPEED OF CHANGE AND LACK OF KNOWLEDGE FOR IMPLEMENTATION

The idea that coal is a valuable resource that has to be used is still very widespread in Kosovo, despite even very conservative EU countries like Poland⁴⁵ and Romania⁴⁶ gradually being faced with the fact that coal is increasingly unfeasible.



'Why it's not a priority, because Kosovo is the fifth largest reserve with lignite in the world. And to politicians, it's seen as a very valuable resource. And it's in the mentality still that that needs to be exploited. And the phrase 'keep it on the ground', it just doesn't sound feasible to them.'

'People are used to seeing coal as a thing that would make us wealthy rather than impoverish us. So it comes from the fact that Kosovo has a lot of lignite on the ground and it's seen as a mineral that we would benefit from. Second is that most... stakeholders... are older people that come from that mindset that they see whatever mineral as a thing that would boost the economy rather than impoverish it.'

Neither is everyone convinced that a fully renewables-based economy is possible or desirable, which some of our respondents see coming from a lack of knowledge and experience, while others see it more as a continuation of the mindset that coal is valuable.

'There's not much knowledge about the energy transition. And [only when]... stakeholders understand it, then things would change. Disbelief as well that renewables are feasible comes from the lack of knowledge.'

'And... we don't even have in our universities today... updated curricula which educate people for becoming an ecologist or an environmental lawyer or sustainable development economist or whatever. So all these contribute to the lack of knowledge.'

'I think the belief that there would be not enough... renewables to substitute fossil fuels is more a general belief in Kosovo, rather than lack of knowledge... There's always been the... general belief that we cannot substitute fossil fuels with renewables. Therefore, we just continue with fossil fuels for a while.'

'...Building a bankable wind project, it's not two years, but you will need five, six years from the greenfield till the commissioning. And this is because of the knowledge. I don't believe that it's something else, but it's because of the knowledge itself...'

'I think that the... whole administration, the Energy Regulator Office, doesn't have the knowledge. They think that everything can be found online, like Google it... Every minister that has been there... okay, except one, didn't have experience in renewables or the energy sector itself. So, maybe this was also an obstacle for the development of the energy transition.'

'There is a long list of things to be done in regard to transparency. And we can improve that, but my feeling is that there is no technical knowledge rather than will from the administration. I would say administration, not this time political will, but administration.'

One respondent also pointed out that lack of involvement of the public in debates about the energy sector also perpetuates this lack of knowledge, as there is no real push for change coming from the grassroots or exchange of information in the public sphere.

'...It's also not having communities be involved in the conversations around energy transition, not having citizens know much about the energy system and issues that we're dealing with. They're far, far, detached. The only thing they know is that they have to pay a bill, it might come from the power plant. They're very detached from any local or national discussions that happen on the energy transition.'

FALSE SOLUTIONS

One of the consequences of both rule of law problems and the outdated view of the energy sector held by many decision makers in Kosovo is the fact that the country has wasted a lot of time, money and energy on pursuing energy projects which were heralded as a great solution at the time but later turned out not to be. Chief among these was the Kosova e Re project, which diverted attention and resources away from other options.

'I think when you look at the last 10 years, nothing apparently happened because we were stuck with a new thermal power plant, as Kosovo, I mean. Until last year, nobody wanted to seriously go into the renewable energy segment. So in this regard, I think that was a kind of bottleneck for Kosovo to decide... or more or less they knew that would never happen. But they couldn't make any progress in regards to renewables because of the new thermal power plant.'

With the initiative to undertake a new feasibility study for the reconstruction of Kosova A, the danger arises of going in the same direction again, and as one of our respondents pointed out, this needs to be stopped in its initial stages.

'One of the political parties... claimed that: "We are probably going to renewables, but we would like to see the possibilities, what we can do in the thermal power plant." ... We are letting them do that, we don't ask for any kind of compensation as people or for the climate impact that it has, or they don't receive any bill for carbon emissions... If they get into kind of refurbishing Kosova A and maybe B, then it will stay longer... And I think that now is the time to react..., because for me it doesn't make sense.'

The second main type of false solution has been the small hydropower boom. The plants have damaged sensitive areas, including the Bjeshkët e Nemuna National Park, and met with determined opposition from local people.⁴⁷ Yet for all the destruction, small hydropower plants in Kosovo contributed only 2.3 per cent of electricity in 2019.⁴⁸



Our respondents varied in their opinion towards biomass as a sustainable solution, but at least one expressed concern about its dominance in government plans and the fact that not all the wood cut is ever replaced.

'What we've seen in recent months and weeks in Kosovo, it's a high discussion about the impact, the mini hydro power plant, the negative impact that they had on the environment in Kosovo, and a lot of voices raised from civil society. We tried it in the parliament in terms of stopping it and making sure that we have a coordinated effort into installing new renewable energy capacities, but not destroying the environment as it has happened with the mini hydro power plants.'

'There's been a debate on categorisation of hydropower and biomass as renewables... Whenever we have decision makers talking about expansion or increasing the share of renewables into the overall portfolio of the energy mix of Kosovo, a chunk of it is biomass... And the other part is hydropower, which is controversial because... it's not set in the right places, environmental impact standards are violated and we don't want that.'

'I don't think I agree that much with the idea that biomass is renewable energy, necessarily. Especially if you don't have procedures such as harvesting and planning for planting for a certain number of years that you know that you're going to get trees again, you don't have those procedures being set, and therefore you cannot really call it renewable energy.'

The next false solution to be put forward for Kosovo looks set to be gas. According to one respondent, the new energy strategy will include plans for gas to supply the heating for main municipalities and also for industry. Not all of our respondents agreed that this is something negative, but given the imperative to completely decarbonise by 2050 and the need to make drastic greenhouse gas emissions cuts immediately, investing in completely new infrastructure for a fuel that will have to be phased out soon is the wrong way to go for Kosovo. Recent talk of renewable gas on the EU level has yet to be borne out in reality, as the likelihood is that renewable gas will never be available in sufficient quantities to replace fossil gas' current usage.⁴⁹

'There's an agreement signed by Kosovo with the US, Trump's administration back then, for bringing LNG [liquefied natural gas] to Kosovo. So that would be used for heating, mainly... I am very interested to see if that's going to be reflected in Kosovo's energy strategy, because this is being kind of kept a bit non-transparent by the government and the Millennium Challenge Corporation [MCC]. The MCC is involved in this, and how that will unfold, there's still uncertainty, and given that there's a change of president, we have to see if even the approach will change...'

INCOMPLETE TRANSPOSITION AND IMPLEMENTATION OF EU RULES AFFECTING THE ENERGY SECTOR

This issue has been partly mentioned above in the section on state capture and lack of transparency, as some of the violations have been so blatant, such as failure to disclose environmental studies and the signing of the Kosova e Re power purchase agreement, that it is hard to believe that they are simply a matter of lax implementation without other factors involved.

Our respondents emphasised that failure to apply the existing laws is the first and main problem.

'The transposition of those directives is done for some sectors, probably 95 per cent transposition. It really comes down to the implementation of it.'

This has certainly been the case with Kosovo's obligations to apply the Large Combustion Plants Directive under the Energy Community Treaty, where, along with its regional peers, it has failed to bring pollution from its coal plants to within the legal limit.⁵⁰ Our respondents attribute this to a lack of sufficient deterrents, a problem common to most or all of the region.

'[For as long as] we don't have in place the polluters pay principle, I don't think that we will be in line with the European pollution control mechanisms... For example, KEK, the power plant company in Kosovo, if they are to pay how much they pollute, probably it wouldn't be that feasible for them to operate. So until these are in place, definitely there's going to be a problem.'

'I think that it doesn't matter how much we pollute, people, nobody will pay... And this gives them comfort, hope, they are in a safe zone because they don't pay anything and that's it, you know? Which I think is totally wrong. You pollute, you pay.'

Kosovo's obligation to apply EU State aid legislation stems from both the Energy Community Treaty and its Stabilisation and Association Agreement with the EU, but it took many years to set up an independent State aid authority, and its first decision was only issued in November 2020.

'Well, Kosovo has the State aid authority, Kosovo has the law, but basically implementation... is not in place... We do have laws, but we don't implement them. And nobody then is penalised for breaching the law... The state authority for State aid wasn't in place until last year, but now is in place. And... there's a case that they did an assessment which was basically in accordance with the law.⁵¹ So I want to believe that with their positioning now and the functionality of the office, Kosovo will perform better in the implementation of State aid regulation and law.'

'State aid rules, we're neglecting completely, with the COVID situation and with some of the plans and assistance that the government gave, it completely neglected, did not take into consideration State aid rules.'

There are, however, still clear implementation gaps, for example with regard to changing renewables incentives to competitive auctions and premiums instead of feed-in tariffs approved on a first-come, first-served basis. The lack of carbon pricing is another area where there is a clear gap that allows polluters not to pay. And the lack of transposition of the EU's nature protection Directives means that Kosovo's precious natural areas are not properly protected from uncontrolled development, including in the energy sector.

Despite the signing of the Green Agenda for the Western Balkans in November 2020, a moment which marked at least a declarative prioritisation of the environment by Western Balkan leaders, one respondent mentioned a lack of optimism that the EU will do much to improve the situation any time soon.

'... With the current status that we have in relation to the EU, I actually hardly can believe that there will be mechanisms from the EU to enforce sort of a higher discipline of Kosovo institutions in terms of better and stricter policies, in terms of the energy and environment.'

LACK OF POLITICAL COURAGE TO CLOSE COAL MINES AND TACKLE JUST TRANSITION

Our respondents felt that the issue of unemployment of coal miners and power plant workers is a real one that needs to be addressed, but they did not see the trade unions as powerful actors so far. However, as one respondent pointed out, this might change when the government takes more decisive steps towards transition.

'It is not very easy to close thousands of jobs without creating new ones in parallel. Similar cases we have in Bulgaria, Romania and Poland. In those cases the EU will mitigate transition through EU funds. Similar should follow here in the southeast European countries... Furthermore in the developed countries the energy transition is linked with massive creation of new jobs, mostly in production of renewable technologies and maintenance... New investments in production of new technologies should be followed in the Balkan region.'

'I haven't seen [resistance by coal mining unions] come to public knowledge yet, as I believe that not even the coal... workers' union would believe that we are about to enter the energy transition process. So, I think that would be an issue for a government that would have to take bold decisions and when that comes through then I think they will be faced with pressure. But until now, this government never gave any indication that that might change. Therefore, we did not have any reaction from the unions.'

'I would say they don't know the concept of just transition and they only think about keeping job placement or retirement [benefits], that their child gets employed in their place. This is the maximum that kind of trade unions are asking for... I wouldn't say that they're very influential, because I think that they're highly politicised as well. So if the government says a certain thing, then you don't see them say the opposite.'

'...There was a case that the chair of the power plant was expelled from his placement. Workers I assume were forced to go and protest to ask for his return. And the guy is highly linked to politicians, and I think that's the only reason that they would go and protest for him to come back. But it's not that he made any... big change... for employees... It was pathetic to see that trade unions would go in support of this, so... we saw that more as an act of pressure by politics... So... I don't think that their role is very big or influential.'

'I fully support their concerns and I understand their concerns for sure since poverty and unemployment in Kosovo is a huge issue. That is why the government should put in place transition programmes, to have these workers transition into the green market and get prioritised for employment in emerging renewable energy companies.'

Clearly, no real plans have been made for a just transition and the miners may not yet feel under pressure. This means that the time to start planning is right now, before an adversarial atmosphere is created.

LACK OF POLITICAL COURAGE TO FACE ELECTRICITY PRICE INCREASES

One respondent mentioned an issue that is relevant for most countries in the region – the fact that electricity prices for households are much cheaper than the cost of electricity generation, which stifles investments by the incumbent energy companies into maintenance and improvement. The issue is certainly sensitive, and Kosovo has seen protests when the energy regulator tried to raise prices.⁵²

'I think that there is also no courage in taking the decision itself [regarding electricity] pricing, because then automatically things will start changing, also for self-consumption and efficiency and everything.'

LACK OF POLITICAL WILL TO COOPERATE AND REALISE REGIONAL SYNERGIES

Clearly the question of Kosovo's ability to cooperate with other countries in the region is tightly connected with its history and status, and not only political will. Nevertheless, one respondent did see a lack of political will and lack of understanding of the advantages of regional co-operation.

'... Absolutely. I think a complete lack of political will and general knowledge as well. I believe that [the government] did not have the capacity to absorb this, to take it seriously, the issue in terms of the regional impact and in terms of the general commitments that Kosovo would definitely have to face very soon with the international community.'

However, clear steps forward are being made in Kosovo's cooperation with Albania. In April 2020 ENTSO-E voted to sign an agreement with Kosovo's transmission operator, KOSTT, which the government hailed as securing Kosovo's electro-energetic independence from Serbia,⁵³ and which constituted a precondition for the Kosovo-Albania transmission line to start operating in December 2020 after several years of delays.⁵⁴

'One positive step that was made is actually the independence of our transmission system and moving into a bloc with Albania, as our two energy systems are very complementary. Albania's based on hydropower plants, Kosovo's [on] fossil fuels. So, I think in terms of the security of supply, I think that presents another positive milestone in moving forward and planning ahead in sort of diversifying our energy capacities...'

'Well, due to history... that will always remain a challenge. Nevertheless, Kosovo and Albania now have a joint energy system... I can't say that there is high ambition, neither from Kosovo nor from any other country of the Western Balkans, but I see it as a positive sign, the agreement between Kosovo and ENTSO-E and now the transmission line... between Kosovo and Albania. Especially because we have complementary energy systems... So, if everything... works without politics..., I think that that would bring positive results.'

'Recently... we had the market coupling with Albania, that was a great initiative. I think we'll learn a lot from that. And... this initiative should expand..., not just to Albania, but also to [other] neighbouring countries... Albania [is] a totally different country in regards to the production and consumer... So, I think that that was not just because of the language and the culture and everything, but there was a logical coupling..., because during the summer they use a lot of energy we don't use, we have a bit more.'

What remains unclear is how the situation in the north of Kosovo will develop. In January 2021 it was reported that Društvo Elektroever, a company owned by Serbia's EPS, had applied to the Kosovo Energy Regulator for a licence to distribute electricity in four municipalities,⁵⁵ but due to delays around appointing members of the Regulator's board, no decision had been taken as of late April 2021.⁵⁶

'...There's still the northern part problem... and how [Serbia] approaches the transmission system operator of Kosovo, and all the kind of financial problems that will come with the new reality, because the Serbian compa-

ny is still operating in Kosovo without a license in the northern part. Energy that is being consumed in the north is not being controlled by the distribution company of the other part of Kosovo. So, all those losses that are being done there, they used to be [billed] to other people, but now with the court decision that can't be put on our bill.'

One respondent particularly underlined the issues resulting from Kosovo's status at the United Nations, as the body coordinating global change efforts.

'I've been attending a lot of United Nations conferences, negotiations on climate change. And I was the only person from Kosovo. And a lot of times I faced difficulties because such organisations don't recognise my country. Therefore, any way that they could help us is through channels that don't recognise us as a country. Don't recognise our sovereignty. Don't recognise the fact that we can take their help, but then we make our own decisions on how we proceed.'

'As a climate activist... I went with the mindset that I shouldn't really care about the political differences we have because we all are trying to tackle one challenge that does not have borders – namely, climate change. But then, because of the fact that you were creating barriers for me to even be part of the discussion, that basically goes against the UN rule of "leave no one behind". Why can we not negotiate on climate change or be part of the discussion to mitigate and adapt towards climate change when climate change has no borders? Kosovo deserves not to be left behind, especially given our heavy reliance on lignite.'

POLITICAL INSTABILITY

In recent years, domestic political instability has also hampered Kosovo's energy transition, as many steps have been delayed or repeatedly changed by the various governments.

'Also internal political stability is very important to have a sustainable energy transition.'

'I think the general political agenda is hindering energy transition because being always hijacked by higher political problems like the dialogue, the need to go to elections. I mean, within a year..., we've had two sets of national elections and within one year in 2020, we had three governments. So, I think that in itself shows that political instability directly affects the having attention to any other subject matter, that is of higher impact like the energy strategy.'

'We definitely are lacking a clear vision on how the future of the energy industry in general in Kosovo is going to be, or what is the potential and what are some of the limitations. Unfortunately, because of the political dis-



cussion and public discourse, it has not come to the higher level of discussion in policymaking in the government or in the parliament.'

TECHNICAL DIFFICULTIES

Our respondents in Kosovo saw technical difficulties as relatively important compared to respondents in other countries in the region. Most seem to be a matter of investment in maintenance and upgrades of the grid, and increasing flexibility, for example via storage facilities. However, one respondent did also raise the question of whether Kosovo has the professional capacity to resolve issues like storage, and another raised the issue of grid maintenance in northern Kosovo, to which the distribution company *Kompania Kosovare për Distribuiim të Energjisë Elektrike në Kosovë* (KEDS) has not had access.

'Because we do operate with pretty old energy infrastructure, there's not many investments done. Definitely that is a technical problem for absorbing renewables in the system... The other one regarding technical issues is the cost of investing in renewables, because the transmission lines that need to be invested in wherever the site is are a burden for the investor. And that kind of raises the costs of the project.'

'As I foresee, there would be technical difficulties. One we have overcome, that is the transmission moving into a unit with Albania, which is positive... But then the second is that..., let's say, that we have a progressive government that has a focus on renewables, we need to discuss further on the storage capacities of Kosovo as a country for the renewable energy that is produced... Do we have enough professional capacities? Do we have enough knowledge, or how long will it take?'

'Our technical energy system lacks a lot of improvements. And it is not able to accommodate distributed generation and other small renewable power plants... First of all, we need to decentralise the system, the generation, energy transmission, and distribution to integrate other companies to be able to upgrade our grid significantly. Once that is done, then we can also accommodate integration of solar and wind and other resources.'

WHAT IS NEEDED TO OVERCOME THE BARRIERS TO A SUSTAINABLE ENERGY TRANSITION IN KOSOVO? WHICH ACTORS CAN PLAY A ROLE IN MOVING FORWARD THE SUSTAINABLE ENERGY TRANSITION IN THE COUNTRY?

The overall directions which need to be covered are outlined below, together with different steps necessary to achieve them and an outline of which actors could play a particular role. However, there are also a number of horizontal needs which need to be pursued in order to build

the necessary governance structure for better decision-making on energy issues, which are also outlined below. All these need to be pursued simultaneously, as even with the ongoing governance deficiencies, some steps forward can and are being made.

HORIZONTAL NEEDS

- Transparency, accountability and the rule of law is clearly a recurrent issue in the energy sector in Kosovo, as well as in other sectors. Tackling this issue would clearly require a much longer analysis, but visible results need to be shown by the new government and the issue needs to be taken into account at every step by the European Union and other international actors assisting Kosovo to plan an energy transition, including by ensuring that only 'no regrets' investments are supported. Donor support such as Instrument for Pre-accession Assistance (IPA) funds are very much needed for energy transition, but must be clearly and transparently conditioned on legal compliance and making real progress.
- The role of non-governmental organisations (NGOs) and investigative journalists is clearly crucial in this field, particularly if working together to ensure that journalists' findings are followed up properly, for example by taking legal action. Among other issues, our respondents mentioned the way that KEK is managed as well as the way the Regulatory Office performs its permitting function as issues which need to be investigated.
- Much stronger enforcement is needed of EU legislation already adopted under the Energy Community Treaty, including on State aid and environment. The Energy Community Secretariat is active on this but needs more tools at its disposal, e.g. ex ante notification and investigation powers on State aid cases, and more support from the European Commission.

'The EU... needs to be way more firm with countries in order to even calculate how much it will cost us tomorrow if we join, if we continue business as usual, because all countries promote integration, but actually forget... that comes with a cost. We can't have business as usual. There's a price to pay tomorrow for the CO₂ we emit. There's a price to pay for the building you rent, if it's not energy efficient, and so on.'

- Institutional planning and management capacity needs to be improved, with greater cooperation between sectors in order to develop up-to-date, holistic and realistic strategies. As much use as possible should also be made of expertise outside of the formal institutions.

'Great ideas come from collaboration. But departments don't work, in a lot of municipalities, the ministries, they don't work together.'



'... Definitely this is a multi-actor partnership that needs to be done... So basically, except civil society, which is a great promoter and great advocate for energy transition, it is important to have the line ministry, MPs, business sector, institutions that regulate the energy sector – ERO and the... transmission operator... – but also academia... So, it's not only... politicians or civil servants that are working in the institutions that themselves can have kind of a good vision, but rather having a multi actor partnership.'

- Increased public dialogue on the energy transition is needed, to increase public understanding of, consensus on, and participation in the energy transition process. Ideally this should be led by the government, but unless it steps up its support for and leadership on the energy transition, civil society and experts will have to continue playing an outsized role. This would also help with accountability as the public would be in a better position to judge the progress made and decisions taken.

'There's a viable solution, a very viable solution. It really comes down to citizens making the right decisions on who they elect. At the end of the day, that's the only viable solution I see at this moment, on top of citizens participating in discussions about energy systems that they are part of, right? That's energy democracy and enhancing energy democracy.'

'... Larger engagement [of the public] in public discussion and [an] increase of transparency in all of these topics [is needed]. As we have entered into... quite a lot of polarisation of our society on political matters, I think it's time to turn a new page and start creating a public discourse where we include all parts of society... As much as I see the importance of the development of democracy and political stability, I see the importance of having a unified voice when it comes to the development strategy that includes energy transition as well.'

'I think that there should be a think tank initiative between all stakeholders in the energy sector, starting from the government itself... but also including other political parties..., KEK, NGOs... all the stakeholders..., KfW and USAID and the others... Kosovo... every time faces... duplication of projects, different approaches to different kinds of solutions.... And in the end, you have a... document which is not suitable for Kosovo, but maybe it's for the US partially and partially for Germany and partially for somewhere else.'

'... We need to have a kind of think tank initiative to discuss about how this energy transition could be made and not just organised by USAID, but organised from maybe Kosovo itself and having also USAID and all other stakeholders, or all other donors in one roundtable... but the problem is because... you try to finish it in one day... It should be like one week, two weeks, every... month if you really want to have this energy transition.'

'Kosovo itself is missing out from these kinds of opportunities and discussion and misunderstandings [arise]... from lack of communication... lack of transparency and lack of everything. So nobody has time to talk about it, but I think that when you talk somewhere and everybody hears out... your opinion, I think it makes a lot of sense.'

'Civil society should start... engaging stakeholders from different sectors at a local level. Doing more advocacy that is more... visible to the citizens, so they could also be part of the discussion. And that will 100 per cent offer significantly more opportunities... for the narrative to change, because once the citizen is involved, they want to know, or they can demand where they want their energy to come from, if they know of the health risks there are currently'.

'The more you engage the citizen, the more you will have backup for when you push for action towards energy transition. You can choose a simple narrative that everyone cares about: health. The second is employment. Green energy will offer green jobs. Third, energy independence, they use the same argument for the Kosovo power plant... We could be energy secure by having small, resilient, for example, futuristic approaches, microgrids, city by city.'

MAIN DIRECTIONS FOR ENERGY TRANSITION

1. Update Kosovo's energy policies to prevent lock-in of unsustainable technologies, mainly new coal and gas power plants, and make a clear plan for the closure of Kosova A and B.

Kosovo's new Energy Strategy and NECP need to set a clear direction for the country's energy sector, as well as policies and implementation programmes to make them happen. They also need to be well integrated with environmental goals and other development goals. Some respondents also underlined that this needs to be Kosovo's own plan, with real ownership by the country, not just a series of donor projects put together in a document.

A viable plan needs to be made for closing Kosova A once some more renewable capacity comes online, use of electrical resistance heaters is decreased, and distribution losses are further reduced. Gradually implementing carbon pricing would help to assess the timeline for closing Kosova B as well and encourage renewables investments.

'[There] has been very little discussion of the energy transition... at the policy level. I don't know about the technical level... We need to bring the discussion back into the parliament. We need to have a level that actually we include more people rather than having these small, isolated pockets, civil society, on one side, civil servants on one side... [We need to] go through the level of... the general discussion. [It] cannot be treated [as] isolated. It has to be treated jointly with other strategies.'



'...The integration of the energy strategy with environmental strategy and development strategy – I truly believe that it's needed to happen first. Second is to set clear objectives and targets for projects that were ongoing for so many years, like decommissioning of Kosovo A, substitution of fossil fuel capacities with renewables and discussing other measures like inefficiency.'

'My vision would be to have an institution that would be dealing with [energy transition] and have political will. That's first. The second is to set up clear targets... I like to have policies that have measurables in them. And having a strategy with an action plan would be a must. Then [the NECP] that needs to go... through... parliament, government and civil society, as a must, and then of course, start the implementation.'

'I think good planning with a clear goal, that's something that would change the situation... I think good planning with knowledgeable people that are ambitious and do understand what the future looks like, and definitely understand the trends of the infrastructure, because it's not the same – the price of solar... only two years [ago and]... today. So there's a need for proper analysis before deciding on what we will support.'

'There's a need for Kosovo not to change its priorities as per donors' needs, but rather have a good strategy, which then coordinates donors by saying, I need this, this, this and that and arguing that based on new trends, basically, because we're not signatories of most of the agreements, but we are a contracting party of the Energy Community and we should fulfil that.'

'Energy efficiency is... a priority because that would definitely make the change and show what the real demand in Kosovo is, because we do have fake demand because of lack of energy efficiency measures. And the fact that Kosovo during the summer uses half of what is consumed during the winter shows that basically electricity is used for heating and that should change.'

'There is still a lot of funds that come into Kosovo and they are still a lot of opportunities for Kosovo to actually make a long-term plan, for its own good to establish a climate or sustainable energy agenda that is not imposed by others or by other international treaties, but it is very genuine and it's self-made. That could actually result in way better prosperity... but also in tackling other solutions such as unemployment..., enhanced integration by having a lot of new courses, a lot of new degrees, even, on renewable energy...'

'...KEK itself could be a very important topic to start a discussion, where KEK will be in the upcoming 15, 20 years. Start doing some training... in wind, solar, in many other things, because whoever comes as a private

investor, he also has limitations... But I think there is a topic to be discussed, and maybe this could be more realistic to discuss in regard to KEK, politically... its transition could be five years, ten, twenty... It just has to have a limit.'

'For, now we have only one solution – going to the market, and having a bankable project with the pricing that Kosovo has for now with no bill on carbon emissions. And then it stays low. Kosovo cannot build any projects without the right PPA or kind of subsidies that could help the pricing.'

While the process will clearly be led by the relevant ministry, one respondent underlined that the prime minister's office can play a role in ensuring different ministries work together and showing a high level of priority for the topic.

'Naturally it should be led by the Ministry of Economic Development... But having in mind the importance, it could be led also from the prime minister's office because it will be higher in the hierarchy and it can help... to push the other stakeholders into place. The Energy Regulator Office... it's just regulating the market, it doesn't do politics or the kind of solutions in place or strategy or whatever. But sure, they are second most important after the Ministry of Economy and Environment...'

One respondent also mentioned that more light needs to be shed on KEK's management in order to inform changes, and that investigative journalists could be of assistance in this.

2. Develop a participatory plan to gradually close Kosovo's lignite mines and secure a socially just transition of the affected regions. Utilise the opportunities offered by the Platform Initiative in Support of Coal Regions in Transition in the Western Balkans and Ukraine.

Our respondents suggest that real opposition to transition has not yet started because the coal workers do not see it starting. That means that it is exactly the time to start the conversation, before the issue has become confrontational. While it may be NGOs who initially press the relevant local authority and government to start just transition planning, ultimately ownership needs to be taken on the local level by the local authorities and community.

'Work with them, work with the unions. Help them throughout this process and ultimately integrate them into the future industry... The state should focus... on addressing their concerns, but not... in a way that they will use it to their advantage to go against plans to transition to renewable energy, but... to assist them in the transition... For such a... programme, there needs to be funds... and will from decision makers to initiate such a programme... There will be less opposition because they would have a safety net.'

3. Seize Kosovo's energy savings potential and enable the deployment of sustainably-sited solar and wind projects, with a particular emphasis on prosumers and energy efficiency.

This also starts with good planning as mentioned above, among other things on what the real likely demand for electricity is if energy savings measures are implemented, and how they can most effectively be done. Energy efficiency really does have to be the first fuel, not just an add-on, and sufficient quality assurance needs to be carried out.

*'Energy efficiency is step zero. We should have done that way before. I'm not even saying the first step because... we're losing time, if not utilising it in the best way possible... Demand for energy is higher due to lack of energy efficiency measures. If energy efficiency is injected, then even the demand will decrease because there will be better insulation and no need for that much... electricity being used for heating, because a lot of households or institutions use electricity for heating. Which in itself, it's just not an efficient practice.'*⁵⁷

'... There should be an amendment to the procurement of energy efficiency equipment, because the way that it works is that they go for energy efficiency solutions that are the cheapest. And it should not be that way, it should be actually energy efficiency solutions that would give you the most benefit back in the long term. And yes, there might be some improvements that are, upfront costs might be higher than the others, but the others have a higher chance of actually failing you long term...'

Kosovo has set up an Energy Efficiency Fund⁵⁸ and has also carried out retrofits of public buildings, but one of our respondents suggested that these need increased scrutiny by investigative journalists to ensure projects are done properly.

'[Investigative journalists should track] the Energy Efficiency Fund, how it will operate, because I think that's important, and how projects will be implemented, or also there are a lot of investments done in many public buildings in the name of energy efficiency. But then the situation on the ground didn't improve. It's just a façade that is kind of being done there. They've whitened the walls, but they didn't actually insulate it, so I think such things are very important in order to know if public money is being actually spent in the proper way and bringing results rather than just being glass and wood for the eyes of the public.'

Larger renewables projects are certainly needed, as long as they are properly sited to avoid destruction of valuable natural areas. Using brownfield sites should be the highest priority.

'This is one of the initiatives that the IFC has proposed to start building on the – they call them brownfield lands, on KEK to build some solar project, which I think it's a very good idea... It's a huge surface, where KEK is located, and maybe they can start doing that as well.'

'There's this island in Denmark. Samsø. Have you heard of it? Well, the way that they addressed that issue and social barrier in the beginning, that was ideal, there was amazing. It's sort of like, you see a wind turbine. You can be part of it. You can have a lower cost. Yes, we are destroying your aesthetics, but you could be a co-investor.'

Citizen energy is in its infancy in Kosovo but can make a significant contribution if properly encouraged. This, as well as an increase of intermittent renewables on the grid more generally, will require cooperation by various actors including the transmission and distribution operators.

'Government will create adequate politics which can lead to a smooth transition. ERO will set the regulatory rules which will mitigate the transition. TSO [the transmission system operator] and DSO [distribution system operator] should be prepared for the energy transition, especially the DSO which should handle the large scale of distributed generation, electro-mobility, storage, etc.'

Financing is clearly a barrier for many people as well, and needs concerted public policies to make measures like energy efficiency renovation, heat pumps and installing solar panels more affordable.

'For my house... I changed from pellets to a heat pump. What would be very nice is to have... [something] equivalent to the green banks [in the US]... They offer rebates for upfront purchases of heating systems that are more in alignment with using sustainable energy... So... we could have an agency in Kosovo that does the same, offers rebates for energy efficiency upgrades, offers rebates for integration of sustainable heating systems such as heat pumps in this case.'

4. Mobilise local municipalities to lead on energy transition, particularly in relation to energy efficiency measures. Specific efforts need to be made in the heating and transport sectors to find sustainable solutions.

Most of our respondents felt that local authorities in Kosovo have enough competences to make a difference, particularly on heating, energy efficiency and transport, and that the situation could be further improved if the central government encouraged their initiatives.

'[Local authorities' involvement is]... huge. It's not only on district heating, it's on efficiency as well. It's in construction. It's on making policies on cooling and heating also for public institutions like schools... So, curricula and programmes are central level responsibility, but management of schools and other maintenance is the responsibility of the local levels. So, as we still have in Kosovo schools that use either heavy oil or fossil fuels for heating, I think that it's really the level and responsibility of the municipality to work on substituting these.'



'You know how the United States has home ruling for towns and cities? That is a very... promising approach... If we were to start integrating these ideas on what would help us as a city to transition into more resilient, cheaper and more sustainable, healthier energy sources. If we start having these conversations in... town meetings, and if... towns and municipalities have more power in pushing for these changes..., then the utility company, even though it's at a central level, has to... adapt by law, because the town decided this way.'

'The ministries always advocate for a decentralised approach to a lot of solutions... but at the end of the day, they sort of want to step in and be the key decision maker. Because they can block certain things that might be passed by the municipality,... instead of coordinating and actually collaborating with them. So, this home ruling approach of the United States has been actually very effective in that, in terms of allowing towns and cities to just say, hey, this city or this town wants to go carbon neutral – very ambitious, right – by 2030, 2050.'

'How are we going to do that? We're going to start discussions and initiatives on inviting, say, solar companies and them proposing us some feasible solutions for solar farms. And then a neighbourhood comes together and they decide to invest in that, they decide to be part of that solar farm, where they can get cheaper prices for the electricity they pay. Of course, the utility has to accommodate that too, the utility company.'

'When I worked in the energy community centre [in the US] we offered free solar analysis. The only thing the companies had to do was... just install. We did the feasibility for free from a grant... and there was a 150 per cent increase of solar projects... through this campaign that was started by... a citizen group... That could be an interesting thing that could happen in Kosovo... There's this organisation called EC Ma Ndryshe in Prizren, they do a great job. I think they could also facilitate such discussions too... And I bet there's many other... local groups that exist in other towns and cities that could be part of this conversation.'

Transport is seen as being quite left behind in the transition so far, with insufficient efforts being made to improve public transport and conditions for non-motorised transport. Electrification would in the short term rely on coal power, and would therefore not be much of a gain until transition in the power sector advances. Nevertheless, it should be planned already now, as a widespread rollout will take time.

'It's not a solution to have electric cars when the main source of the energy in Kosovo is the power plant. So I think these should go hand in hand, but... even the infrastructure that is in plans is basically friendly towards cars rather than public transportation and bicycles... So, that needs to change first, the infrastructure, and

then basically we would see the results of the transport sector contributing to less CO₂ emissions, less emissions and better or more sustainable transportation.'

'We consider the electrification of railways before 2025, and a smooth increase of electro mobility in the next decade. But there is no concrete plan for such a transition. We have considered during the electricity demand forecast that till 2030 we will have at least 10,000 electric vehicles.'

'I think that we need to revise the general transition strategy in transport... We were quite advanced with the highways. And this is not something that we... have to take much pride in... because if we look at the impact that they had or they will have in the future as well on the environment, I think we need now to shift focus slowly toward railways and the other policies that will help the transportation to go towards lower carbon emissions.'

'Integration of a very efficient public transportation system in the cities would be of great benefit, both to citizens, and to the local decision makers that are struggling with peak... season, when also the diaspora comes in and you just have a traffic jam, illegal parking and all the other issues. So there are plans for... electric buses and everything else. But again, those are high-cost investments. That at least Prizren cannot afford at this point. But what they could start doing is integrate those ideas into their annual planning..., step by step.'

5. Avoid being distracted by unsustainable energy sources such as new coal, hydropower in sensitive areas, fossil gas, biofuels, waste incineration, large-scale use of forest biomass, or unproven/unavailable technologies such as renewable hydrogen.

Avoiding unsustainable or unproven solutions is a crucial component of energy transition. As we saw above, Kosovo's transition has been terribly delayed due to pursuing projects which have not turned out to be sustainable or economically justified, including coal and small hydropower. The issues around small hydropower are far from solved, and as well as parliamentary and governmental initiatives to review contracts and take corrective action, one respondent mentioned that investigative journalists have helped uncover information in this field and that there is a need for them to continue.

A similar situation of investing heavily in a false solution may be about to occur with fossil gas. From the point of view of local pollution, gas may appear more favourable than e.g. using heavy fuel oil for district heating, but given the large investment in transmission and distribution infrastructure that would be needed, and the need to switch away from gas within the next few years, it is simply not worth it.

'[P]roper assessment on the feasibility of any project [is needed]. Because if Kosovo wants to join the EU, we should definitely think about the price of joining the EU as well. So, whatever action we're taking today will probably be a burden in 10 years, if not closer.'

The EU needs to be a lot clearer in the messages it is sending regarding gas. While it has clearly taken up the message that a coal phase-out is needed, its support for gas infrastructure via the selection of the 2020 Projects of Energy Community Interest (PECIs) list, in the Economic and Investment Plan for the Western Balkans, and in various speeches, is sending the wrong message about gas's compatibility with decarbonisation. The same goes for donors like the EBRD, who have openly advocated for expanding the use of gas in the region, despite the fact this would entail significant investments in the opposite direction of decarbonisation.⁵⁹

The same goes for technologies such as renewable hydrogen and renewable gas, which are not yet widely available and are only ever likely to be sufficient to contribute to decarbonisation of the harder to abate sectors.

Waste incineration, which has started developing in Albania and Serbia, should also be avoided in Kosovo. As well as polluting the air, it locks in material and financial resources and prevents the development of waste prevention and recycling systems. No matter what filters the incinerator has, its toxic filter residues, fly ash and bottom ash still need to be safely disposed of, a major challenge in countries with poor environmental governance.

To be responsible, the international community needs to take a precautionary approach and avoid promoting unproven technologies or those with high environmental risks, and encourage the region's authorities to pay more attention to energy efficiency and low-risk technologies.

ENDNOTES

- 1 Eurostat, DEMO_GIND, 2018 data; https://ec.europa.eu/eurostat/databrowser/view/demo_gind/default/table?lang=en.
- 2 EPS, Termoelektrane, last accessed 17 February 2021; <http://www.eps.rs/lat/Poslovanje-EE/Stranice/Termoelektrane.aspx>.
- 3 International Energy Agency, Electricity, Kosovo, 2019; <https://www.iea.org/data-and-statistics/data-tables?country=KOSOVO&energy=Electricity&year=2019>.
- 4 A capacity of 450 MW was often cited; however, this was the net rather than gross capacity.
- 5 Energy Community Secretariat, WB6 Energy Transition Tracker, February 2021; <https://www.energy-community.org/regionalinitiatives/WB6/Tracker.html>.
- 6 Igor Todorović, Kitka wind farm to be expanded by 20 MW, *Balkan Green Energy News*, 14 September 2020; <https://balkangreenenergynews.com/kitka-wind-farm-to-be-expanded-by-20-mw/>.
- 7 ECIKS, Kosovo signs agreement for 100 MW in solar power plants and wind farms, 7 February, 2021; <https://eciks.com/kosovo-signs-agreement-for-100-mw-in-solar-power-plants-and-wind-farms/>.
- 8 For example, see Fatos Bytyci, Divided Kosovo mountain village unites to fight hydropower plant, *Reuters*, 11 October 2019 and Prishtina Insight's coverage of the topic, <https://www.reuters.com/article/us-kosovo-environment-protest-idUSKBN1WQ21H>, last accessed 1 April 2021.
- 9 Government of Kosovo, Ministry of Energy and Mining, Energy Strategy of the Republic of Kosovo for the Period 2009–2018, 2009; http://www.mei-ks.net/repository/docs/ANNEX_12_-_Kosovo_Energy_Strategy_2009-2018.pdf.
- 10 International Energy Agency, Electricity, Kosovo, 2018; <https://www.iea.org/data-and-statistics/data-tables?country=KOSOVO&energy=Electricity&year=2018>.
- 11 Spectator Kosovo, Unclear who is paying for north's electricity bills, 18 March 2019; <https://medium.com/the-kosovo-spectator/unclear-who-is-paying-for-norths-electricity-bills-3ef009518539>.
- 12 Fatos Bytyci and Maja Zuvela, Serbia, Kosovo power grid row delays European clocks, *Reuters*, 7 March 2018; <https://www.reuters.com/article/serbia-kosovo-energy-idUSL5N1QP2FF>.
- 13 Government of Kosovo, Prime Minister's Office, Agreement between KOSTT and ENTSO-E, Kosovo's electro-energetic independence from Serbia, 21 April 2020; <https://kryeministri-ks.net/en/marrevshja-ne-mes-kostt-dhe-entso-e-pavaresim-elektro-energjetik-i-kosoves-nga-serbia/>.
- 14 Energy Community Ministerial Council, Decision 2012/04/MC-EnC, 18 October 2012; https://www.energy-community.org/dam/jcr:f2d4b3b8-de85-41b2-aa28-142854b65903/Decision_2012_04_MC_RE.pdf.
- 15 Eurostat: Share of energy from renewable sources (online data code: NRG_IND_REN), last update: 3 February 2021; https://ec.europa.eu/eurostat/databrowser/view/nrg_ind_ren/default/table?lang=en.
- 16 Ministry of Economic Development, Kosovo: National Renewable Energy Action Plan 2011–2020, 2013; https://www.energy-community.org/dam/jcr:b1c8516c-1112-49bd-85eb-06629175e0b3/NREAP_2013_KV.pdf.
- 17 Ministry of Economic Development, Kosovo: National Renewable Energy Action Plan 2011–2020; https://www.energy-community.org/dam/jcr:b1c8516c-1112-49bd-85eb-06629175e0b3/NREAP_2013_KV.pdf.
- 18 Ministry of Economic Development, Kosovo, Administrative Instruction (Med) No.05/2017 on Renewable Energy Source targets; https://mzhe-ks.net/repository/docs/Projekt_UA_p%C3%ABr_Caqet_e_Energjise_nga_BRE-FINALE_23_06_2017.pdf.
- 19 Ministry of Economic Development, Kosovo, Administrative Instruction (Med) No.05/2017 on Renewable Energy Source targets; https://mzhe-ks.net/repository/docs/Projekt_UA_p%C3%ABr_Caqet_e_Energjise_nga_BRE-FINALE_23_06_2017.pdf.
- 20 Mott MacDonald/IPF3, Regional strategy for sustainable hydropower in the Western Balkans Background report no. 7: Inventory of planned hydropower plant projects, Final Draft 3, Western Balkans Investment Framework, November 2017; <https://www.wbif.eu/storage/app/media/Library/10.Projects/1.Hydropower/14.WBEC-REG-ENE-01-BR-7-HPP-Inventory-05.12.pdf>.



- 21 Government Of Kosovo, National Renewable Energy Action Plan of the Republic Of Kosovo 2011-2020, Update For 2018–2020, October 2018. (It says May 2020 on the document but from other sources it is clear it was adopted in October 2018); https://mzhe-ks.net/repository/docs/Plani_i_veprimi2018-2020_eng.docx.
- 22 Energy Regulatory Office, Annual Report 2019, March 2020; [https://www.ero-ks.org/zrre/sites/default/files/Publikimet/Raportet/Vjetor/Annual Report 2019_ ERO.pdf](https://www.ero-ks.org/zrre/sites/default/files/Publikimet/Raportet/Vjetor/Annual%20Report%202019_ERO.pdf).
- 23 International Energy Agency, Total energy supply (TES) by GDP, Kosovo, 1990–2018, *IEA Data and Statistics*, <https://www.iea.org/data-and-statistics?country=KOSOVO&fuel=Energy%20transition%20indicators&indicator=TPESbyGDPPDP>, last accessed 3 December 2020.
- 24 International Energy Agency, Share of total final consumption (TFC) by sector, Kosovo, 1990–2018, *IEA Data and Statistics*, last accessed 3 December 2020; <https://www.iea.org/data-and-statistics?country=KOSOVO&fuel=Energy%20consumption&indicator=TFCbySector>.
- 25 Energy Regulatory Office, Annual Report 2019, March 2020; [https://www.ero-ks.org/zrre/sites/default/files/Publikimet/Raportet/Vjetor/Annual Report 2019_ ERO.pdf](https://www.ero-ks.org/zrre/sites/default/files/Publikimet/Raportet/Vjetor/Annual%20Report%202019_ERO.pdf).
- 26 No more up to date figures have been identified. Skender Kabashi, District Heating in Kosovo, *Euroheat*, 1 May 2017; <https://www.euroheat.org/knowledge-hub/district-energy-kosovo/>.
- 27 Energy Regulatory Office, Annual Report 2019, March 2020; [https://www.ero-ks.org/zrre/sites/default/files/Publikimet/Raportet/Vjetor/Annual Report 2019_ ERO.pdf](https://www.ero-ks.org/zrre/sites/default/files/Publikimet/Raportet/Vjetor/Annual%20Report%202019_ERO.pdf).
- 28 European Commission, Improving district heating in Prishtinë/Priština and Gjakova/Djakovica, 2015; https://ec.europa.eu/neighborhood-enlargement/sites/default/files/pdf/kosovo/ipa/2015/ipa2015_ks_06_district_heating.pdf.
- 29 Kosovo Online, Gradska toplana u Severnoj Mitrovici spremno dočekuje zimu, 28 October 2019; <https://www.kosovo-online.com/vesti/lokal/gradska-toplana-u-severnoj-mitrovici-spremno-docekuje-zimu-28-10-2019>.
- 30 The Kosovo Office for Statistics provides some data, but it does not identify modal shares.
- 31 Republic of Kosovo, Energy Strategy of the Republic of Kosovo 2017–2026, 2017; https://mzhe-ks.net/repository/docs/Kosovo_Energy_Strategy_2017_-_26.pdf.
- 32 Claire Nuttall, Wesley Clark's Kosovo coal project criticised over transparency and environmental impact, *Intellinews*, 20 September 2016; <https://www.intellinews.com/wesley-clark-s-kosovo-coal-project-criticised-over-transparency-and-environmental-impact-106423/>.
- 33 Eurostat, Energy Dependence %, Table T2020_RD320, last updated 8 February 2021; https://ec.europa.eu/eurostat/databrowser/view/t2020_rd320/default/table?lang=en.
- 34 Regional Cooperation Council, Sofia Declaration on the Green Agenda for the Western Balkans, 10 November 2020; <https://www.rcc.int/docs/546/sofia-declaration-on-the-green-agenda-for-the-western-balkans-rn>.
- 35 Pippa Gallop, ContourGlobal finally quits Kosova e Re coal plant, *CEE Bankwatch Network*, 17 March 2020; <https://bankwatch.org/blog/contourglobal-finally-quits-kosova-e-re-coal-plant>.
- 36 Energy Community Secretariat, WB6 Energy Transition Tracker, February 2021; <https://www.energy-community.org/regionalinitiatives/WB6/Tracker.html>.
- 37 For more on the contract, see CEE Bankwatch Network, Legal challenge mounted against Kosovo coal project's "absurd" contract, *CEE Bankwatch Network*, 13 May 2019; https://bankwatch.org/press_release/legal-challenge-mounted-against-kosovo-coal-project-s-absurd-contract.
- 38 Michael Igoe, World Bank drops support for Kosovo's controversial coal project, *Devex*, 10 October 2018; <https://www.devex.com/news/world-bank-drops-support-for-kosovo-s-controversial-coal-project-93626>.
- 39 Eve-Anne Travers, 60 organizations condemn Austrian embassy's role in 'illegal' hydropower operation, *Prishtina Insight*, 30 June 2020; <https://prishtinainsight.com/60-organizations-condemn-austrian-embassys-role-in-illegal-hydropower-operation/>.
- 40 Riverwatch, Another Slap in the Face for Kelag in Kosovo, 13 December 2020; <https://riverwatch.eu/en/balkanrivers/news/another-slap-face-kelag-kosovo>.
- 41 Prishtina Insight, Environmental activist sued by KelKos for €100,000, *Prishtina Insight*, 18 February 2021; <https://riverwatch.eu/en/balkanrivers/news/another-slap-face-kelag-kosovo>.
- 42 Visar Prebreza and Jeta Xharra, Unclean energy: The Kosovar who would own the sun, *Prishtina Insight*, 2 June 2020; <https://prishtinainsight.com/unclean-energy-the-kosovar-who-would-own-the-sun-mag/>.
- 43 Lira Ramadani, KOSID sues the government challenging Kosovo's coal investment, *Prishtina Insight*, 21 March 2019; <https://prishtinainsight.com/kosid-sues-the-government-challenging-kosovos-coal-investment/>.
- 44 WWF Adria and South East Europe Sustainable Energy Policy (SEE SEP), EIA/SEA of hydropower projects in southeast Europe – meeting the EU standards, October 2015; https://d2ouvy59p0dg6k.cloudfront.net/downloads/hidro_v6_webr.pdf.
- 45 Europe Beyond Coal, Polish Utility ZE PAK to close all its lignite plants in line with UN Climate Agreement, 1 October 2020; <https://beyond-coal.eu/2020/10/01/polish-utility-ze-pak-to-close-all-its-lignite-plants-in-line-with-un-climate-agreement/>.
- 46 See Romania country analysis.
- 47 Riverwatch, Another Slap in the Face for Kelag in Kosovo, 13 December 2020; <https://riverwatch.eu/en/balkanrivers/news/another-slap-face-kelag-kosovo>. See also a series of articles on this issue on the *Prishtina Insight* portal; <https://prishtinainsight.com/?s=hydro>.
- 48 Kosovo Energy Regulatory Office, Annual Report 2019, March 2020. Calculated from p. 78 and p. 79 of the English version; [https://www.ero-ks.org/zrre/sites/default/files/Publikimet/Raportet/Vjetor/Annual Report 2019_ ERO.pdf](https://www.ero-ks.org/zrre/sites/default/files/Publikimet/Raportet/Vjetor/Annual%20Report%202019_ERO.pdf).
- 49 Corporate Europe Observatory, The 7 myths industry uses to sell us so-called renewable gas, November 2018; https://corporateeurope.org/sites/default/files/attachments/pt1_renewable_gas_-_myths.pdf.
- 50 Ioana Ciuta, Pippa Gallop and Davor Pehchevski, Comply or Close, 2020 update, *CEE Bankwatch Network*, June 2020; https://bankwatch.org/wp-content/uploads/2020/06/COMPLY-OR-CLOSE-How-Western-Balkan-coal-plants-breach-air-pollution-laws-and-what-governments-must-do-about-it-2020-Update_final_eng.pdf.
- 51 On 24 November 2020, the State Aid Commission of Kosovo rendered its first-ever decision concerning State aid in the energy sectors. It found that an administratively set feed-in-tariff for 20 MW of photovoltaic projects does not comply with the State aid acquis because it was not notified to the competent State aid authority before it was granted and it is not in line with the Guidelines on State aid for environmental protection and energy. See: Energy Community Secretariat, State aid authority of Kosovo renders first decision regarding non-compliant State support to renewables, 26 November 2020; <https://www.energy-community.org/news/Energy-Community-News/2020/11/26a.html>.
- 52 Eraldin Fazliu, Protests against an increase in energy prices, *Kosovo 2.0*, 20 December 2017; <https://kosovotwopointzero.com/en/protest-tohet-kunder-rritjes-se-cmimit-te-energijse-elektrike/>.
- 53 Government of Kosovo, Prime Minister's office, Agreement between KOSTT and ENTSO-E, Kosovo's electro-energetic independence from Serbia, 21 April 2020; <https://kryeministri-ks.net/en/marreshja-ne-mes-kostt-dhe-entso-e-pavaresim-elektro-energjetik-i-kosoves-nga-serbia/>.
- 54 BNE Intellinews, Kosovo becomes independent of Serbia's power grid, *BNE Intellinews*, 14 December 2020; <https://www.intellinews.com/kosovo-becomes-independent-of-serbia-s-power-grid-198886/?source=albania>.
- 55 Perparim Isufi, Serbia-Affiliated Power Company Eyes Supplying North Kosovo, *Balkan Insight*, 4 January 2021; <https://balkaninsight.com/2021/01/04/serbia-affiliated-power-company-eyes-supplying-north-kosovo/>.
- 56 Nadie Ahmeti, Na severu Kosova za tri godine 40 miliona evra energetskog gubitka, *Radio Slobodna Evropa*, 30 April 2021; <https://www.slobodnaevropa.org/a/na-severu-kosova-za-tri-godine-40-miliona-evra-energetskog-gubitka/31231926.html>.

- 57 Meaning the use of old style electrical resistance heaters, whereas electrical heat pumps certainly can make an important and efficient contribution.
- 58 For more information see Kosovo Energy Efficiency Fund website; <https://fkee-rks.net/en/>.
- 59 Jakov Milatović and Damin Chung, Kicking the coal habit in the Western Balkans, *EBRD*, 3 December 2018; <https://www.ebrd.com/news/2018/kicking-the-coal-habit-in-the-western-balkans.html>.



MONTENEGRO





ENERGY SECTOR OVERVIEW

Like most of its neighbours, Montenegro, with around 622,000 people,¹ generates electricity mostly from hydropower and coal. The largest amount of installed capacity consists of hydropower, followed by coal and then wind.

Montenegro's electricity market is dominated by the state-owned power utility *Elektroprivreda Crne Gore*, which owns all of the country's largest electricity generation capacities – the Piva and Perućica hydropower plants and the Pljevlja coal plant, as well as several old small hydropower plants.² It supplies most electricity consumers.

Montenegro has two wind farms, Krnovo (72 MW) and Možura (46 MW), but has been much slower to develop solar, despite its potential. By the end of 2019 it had just under 2 MW installed, though it has launched a huge 250 MW solar project at Briska Gora near Ulcinj.³

Like its neighbours, Montenegro's heavy dependence on hydropower means its electricity generation fluctuates considerably. In wet years like 2010 and 2013 hydropower generates two-thirds of the country's demand, but most years it amounts to much less. Coal generally provides around 40 per cent of the country's electricity.

Electricity consumption has declined slightly in the last ten years, most likely due to the decline in operational capacity at the Podgorica aluminium factory KAP. This has generally meant a decrease in electricity imports but in 2017 Montenegro still had to import significant quantities of electricity due to poor hydrological conditions.

Montenegro undertook to reach a share of 33 per cent renewables in final energy consumption by 2020 compared to 26.3 per cent in 2009.⁴ After this, things got confusing due to the revision of biomass data, so its progress reports to the Energy Community show e.g. 32.3 per cent for 2017 as the latest figure,⁵ but its reporting to Eurostat shows 39.7 per cent for the same year.⁶

According to Eurostat data, Montenegro's share of renewables has actually been falling since a high of 44 per cent

in 2014, despite the addition of two wind farms.⁷ This is presumably due to a decrease in biomass use. Montenegro has not yet set 2030 targets.

Montenegro's target primary energy consumption for 2020 was 1,306 kilotonnes of oil equivalent (ktoe) and its final energy consumption target 1,159 ktoe. Final official figures are not available yet, but the Energy Community's 2020 Implementation Report showed consumption rising rather than falling in 2018.⁸

The country's energy intensity is 2.5 times as high as the EU average.⁹ The residential and transport sectors are responsible for the highest share of total final energy consumption and have very high potential for improvements.¹⁰

The most common forms of heating for residential buildings are wood, electricity and coal. One of our respondents mentioned a high level of energy poverty, with many people heating only one room using wood or coal.

Montenegro has no district heating systems. A system is planned to be connected to the Pljevlja coal power plant, but has not moved forward for many years, and there are further plans for biomass district heating development in several towns, such as Nikšić, Rožaje, Bijelo Polje, Kolašin and Žabljak.

Some of our respondents commented that there has been a lack of attention paid to energy transition in the heating and cooling sector. The main effort so far seems to be an incentives scheme for households to replace inefficient wood stoves with more efficient ones.

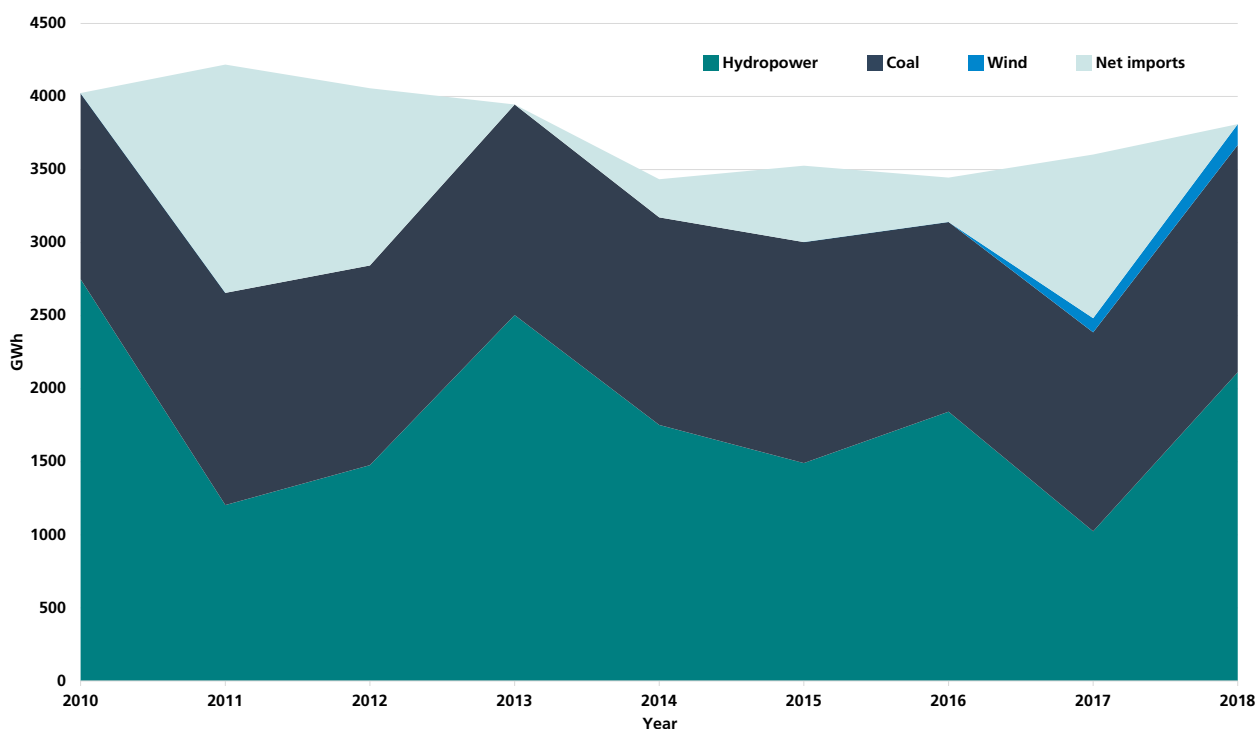
Private road transport predominates for passenger transport. There is very little public transport and buses and coaches made up only 2.3 per cent of passenger kilometres in 2018, with rail even lower at 1.3 per cent.¹¹ The situation with freight is unclear. Eurostat data is not available for Montenegro and Monstat data appears to show much more freight transport by train than by road, which would make Montenegro an outlier in the region.¹² Some of our respondents highlighted that Montenegro, like most of its regional peers, has made very little progress with transition in the transport sector.

Table 1
Installed capacity of electricity generation facilities in Montenegro, 2019

Energy source	MW	Per cent
Coal	225	21.9
Large hydropower	649	63.1
Small hydropower	34.7	3.4
Wind	118	11.5
Solar	2	0.2

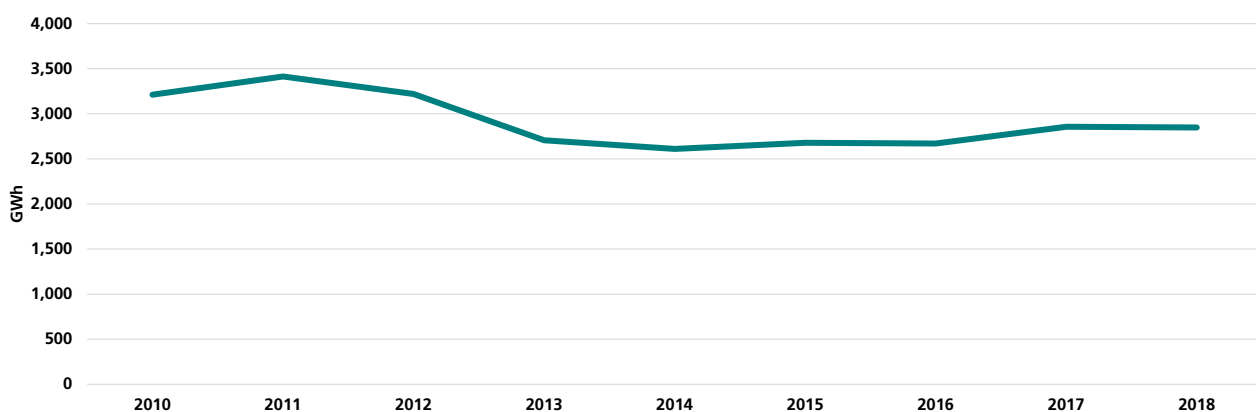
Source: REGAGEN Annual Report 2019; Crna Gora Regulatorna Agencija za Energetiku, Izvještaj o stanju energetskog sektora Crne Gore u 2019. godini, July 2020, <https://zakoni.skupstina.me/zakoni/web/app.php/akt/2345>

Figure 1
Electricity generation in Montenegro, 2010–2019



Source: IEA Statistics, <https://www.iea.org/data-and-statistics/data-tables?country=MONTENEGRO&energy=Electricity&year=2010>

Figure 2
Electricity consumption in Montenegro



Source: IEA Statistics, Electricity, <https://www.iea.org/data-and-statistics/data-tables?country=MONTENEGRO&energy=Electricity&year=2009>

Montenegro does not extract oil and gas, but for several years a debate has been ongoing about potential offshore drilling in the Adriatic. In March 2021, Eni and Novatek started exploratory drilling, after which the government has pledged to let the public have its say over whether extraction should take place.¹³

Montenegro's net energy import dependence was 30.9 per cent in 2018, compared to the EU-28 average for the same year of nearly 55.7 per cent.¹⁴ The country's relatively low dependence reflects the fact that it has no gas import network and only uses domestic resources for electricity generation.

MONTENEGRO'S ENERGY POLICIES

As an aspiring EU Member State, Montenegro has to achieve decarbonisation by 2050. It also confirmed this commitment by signing the Green Agenda for the Western Balkans in November 2020.¹⁵ However, our respondents did not see the country as really preparing or seriously committed to this goal, even though its National Energy and Climate Plan (NECP) development process has taken the goal into account.

Montenegro's official energy policies are very much in limbo. Its 2014 Energy Strategy¹⁶ is now terribly out of date, as



its main plans consisted of building the Pljevlja II coal power plant, which has now been cancelled, and hydropower plants on the Morača river, which as well as being highly controversial from an environmental point of view are now increasingly seen as uneconomic. The third main project, the Komarnica hydropower plant, is the only one of these three currently being actively promoted, but it too has not been properly justified in terms of its economics or energy demand, and the area where it would be built is also an Emerald site which has not been properly researched. It is also questionable whether building yet more hydropower is useful for Montenegro considering its fluctuating annual electricity generation.¹⁷

Reality has overtaken the strategy and as mentioned above, a huge solar project is now planned by Montenegro's electricity company Elektroprivreda Crne Gore (EPCG) and Finland's Fortum which was not foreseen in the strategy. EPCG is also planning additional wind farms at Gvozd and Brajići.

Another element of the Strategy which needs revision is on electricity demand. The Strategy assumed that the Podgorica aluminium plant (*Kombinata aluminijuma Podgorica* (KAP)), would work at a level of 84 MW, but in reality the future of the plant is highly uncertain. Since 2013 it has officially been bankrupt, though the process has not been completed and the plant is still operating for now. In March 2021, however, the operator, Uniprom, announced that 600 workers would be laid off, but had not yet begun technical preparations to close the plant.¹⁸ It is therefore not clear whether this was a final announcement or rather a threat designed to silence ongoing complaints about working conditions¹⁹ at the plant.

Montenegro has not set a coal or fossil fuel phase-out date. An urgently pending decision for Montenegro's government is what to do with the Pljevlja coal power plant. In June 2020 the previous government signed a contract with a consortium led by China's Dongfang (DEC International) to modernise the plant and bring it into line with the so-called 2017 LCP BREF, representing the EU's latest standards for such plants.²⁰ However, EPCG has never publicly proven that such an investment would be economically justified, nor that the planned investments would be technically capable of bringing the plant into compliance.²¹ At the time, it was claimed that this investment would extend the lifetime of the plant by 30 years,²² which we seriously doubt because the planned works do not include reconstruction of the main parts of the plant.

At the same time, the plant can no longer legally operate without modernisation, as under the Energy Community Treaty, it has been working under a limited regime called an 'opt-out' since 2018, meaning it could not work more than 20,000 hours between 1 January 2018 and the end of 2023. Instead of spreading the available hours over the available years, the plant spent all its hours between 2018 and 2020,²³ but it is still operating and the modernisation project is not yet ready to begin. So, Montenegro's new

government took office at the end of 2020 presented with a fait accompli, and is now trying to figure out what to do.²⁴

As with most other countries in the region, our respondents felt that Montenegro had done very little to advance a transition in the heating and transport sectors so far and that this would need to be strengthened during the ongoing development of the NECP. As of May 2021, no draft NECP had been made available to the public for consultation.

WHY IS MONTENEGRO'S ENERGY TRANSITION NOT ADVANCING MORE QUICKLY?

Montenegro is widely considered the most advanced of the EU accession countries, particularly in the field of energy, as it has taken steps to bring its electricity prices closer to market value and also introduced a carbon pricing system²⁵ (albeit one which is now being revised after being hit by a scandal).²⁶ But the country is at a rather specific moment, having changed governments a few months ago and not yet having established a clear new direction. Before this change, Montenegro had turned around its energy policies since the demise of the planned Pljevlja II coal plant.

This moment clearly opened the space for the country to publicly reorient itself towards building up renewable energy sources instead of concentrating so much time and money on one large coal project, and it can now be considered among the more progressive countries in the region concerning energy. In 2019 Montenegro announced that for ten days, all electricity generated had come from renewable resources (including hydropower).²⁷ Nevertheless, several factors are still negatively influencing Montenegro's energy transition, as described below.

STATE CAPTURE BY INCUMBENT UTILITIES, LACK OF TRANSPARENCY AND RULE OF LAW

Our respondents agreed that state capture, lack of transparency and rule of law are significant problems for Montenegro's energy transition.

'I can only agree with the selection of the obstacles to the energy transition process presented here and confirm that they are prominent in the country's energy sector. These issues are the main hindrances to the energy transition process in Montenegro, with a stronger impact than others mentioned in the continuation of the questionnaire.'

'There is a high level of lack of transparency and corruption.'

Montenegro has long been referred to as being run like a family business²⁸ by Milo Đukanović, currently the country's president, and the Democratic Party of Socialists (DPS) party. This also extends to the energy sector. Aleksandar 'Aco' Đukanović, the President's brother, owned part of the Pljevlja coal mine for years, only to have his share

bought out by the state in 2018 for what many considered was an artificially inflated price.²⁹

The calculation of the mine's value assumed the construction of Pljevlja II³⁰ and thus a guaranteed market for the coal from the mine for many years to come. However, it was quite clear by this stage that the project would not happen, as the main contractor had already been dropped for failing to secure financing.³¹ Indeed, we assume that ensuring the future of the mine's income was one of the main drivers for the failed project, which for years diverted Montenegro's resources and attention away from genuinely pursuing energy transition.

Since then, EPCG has generally become more proactive towards developing renewable energy projects, but its director has been changed by the new government, so it remains to be seen which direction it will take.³² Nevertheless, the consequences of decisions taken by the previous management will continue to have a lasting impact on the company and on Montenegro's energy system. Top of the list is the decision to modernise the existing power plant, a process which has lacked transparency from the start, but which may have consequences for several decades to come.

As the country moves ahead with its renewable energy plans, improves its energy efficiency and closes the KAP aluminium plant – which we consider only a matter of time – we would expect demand and supply to be balanced within the next few years, so any decision to modernise the Pljevlja plant really needs to be well-justified, in terms of cost as well as pollution reduction. However, this has not been the case. Numerous attempts by non-governmental organisations (NGOs) and political parties to obtain the feasibility study for the modernisation project have failed, and it seems it does not exist.

'...Definitely no feasibility study was done [for the modernisation of the Pljevlja power plant]... They based the project on one of the scenarios they prepared when the second unit was planned. The Ministry requested that [EPCG] deliver that document or any document justifying and confirming the economic feasibility of the project. That document still hasn't been delivered.'

Another issue is that the winning consortium includes BB Solar, a company half-owned by the President of Montenegro's son, Blažo Đukanović, which, as the name suggests, specialises in solar rather than coal plants.³³

The prices for the bids for the modernisation varied very widely, leading both the media and one of the competing bidders, Hamon Rudis, to question whether the winning bid offers an inferior technological solution.³⁴ Hamon Rudis requested that the selection commission check the compliance of Dongfang's bid with the technical specifications in the tender documentation due to its much lower price than either of the other two bids. The Decision on the selection of the best bid³⁵ from 7 November 2019 discusses the complaint and provides the tender commission's re-

sponse. The tender commission states that no specification was included in the tender obliging the bidders to submit technical documentation – they only had to provide statements that their offer complied with certain parameters.

The lack of technical documentation submitted by the bidders leaves the public with very little information on which to assess the technical quality of the winning bid. This gaping lack of transparency raises serious doubts as to the quality of the project, to the extent that in early April 2021, the Ministry for Capital Investments asked the public prosecutor to investigate the process.³⁶

It is not only the close relations between the state and EPCG which are causing a lack of transparency, however. Montenegro was the first country in the region where close links were systematically revealed between businesses receiving concessions for small hydropower plants and the DPS party.³⁷ After numerous public protests against various plants, particularly in the north of the country, the government was forced to start reviewing the contracts, and has so far cancelled contracts for seven plants despite facing lawsuits from some of the investors.³⁸

In 2020 the European Commission also asked Montenegro to undertake a 'credible, independent and efficient' investigation into the Možura wind farm, as corruption allegations around the case had been the subject of an investigation conducted by the Maltese journalist Daphne Caruana Galizia, who was killed by a car bomb in 2017. Her investigation apparently focused on Milo Đukanović, and his Maltese counterpart, Joseph Muscat, and their alleged links with Azerbaijan's ruling elite.³⁹ In March 2021, Montenegro's Deputy Prime Minister confirmed that the case would be investigated thoroughly.⁴⁰

Many of the other factors limiting Montenegro's energy transition are closely linked to the issues with rule of law, nepotism and so on. For example, the country is the most advanced in the region in terms of transposition of EU legislation, but it is often implemented very superficially or not at all, particularly when well-connected business interests are involved.

'Yes, that is a very difficult topic, and I think we still have a significant dose of that phenomenon in our society. And that is a big problem which must be solved if we want to go forward. I just will tell you one [piece of] information that the municipality of Pljevlja, one of the most polluted towns in Europe: for a long time it has not had an ecological inspector.'

Of course a lack of capacity can arise for other reasons than corruption, but when Montenegro's most polluted town has no environmental inspector, it is clear that the authorities have no real interest in enforcing environmental legislation.

One of our respondents also pointed out that the issues are often made more difficult by Montenegro's rhetoric in



favour of energy transition, while not always pursuing policies which promote it. This muddies the waters by making the lack of progress less obvious than in some of the other countries in the region.

'Something that is slightly different than the "lack of the accountability of decision makers" is the situation where decision makers declaratively support energy transition in domestic and international fora while at the same time doing their best to hinder its progress... This kind of dishonesty is then much harder to challenge and confront than if there was a clearly expressed disagreement with the energy transition concept.'

Transparency in the sense of access to documents is an interesting phenomenon in Montenegro. On one hand, compared to other countries in the region, Montenegro is better at proactively releasing information such as information from government sessions in a timely manner, but there are some large black holes concerning certain projects such as the rehabilitation of the Pljevlja coal plant, or the Bar-Boljare motorway. This in itself is a strong red flag that there might be something to hide.

'Sometimes, the NGO sector in Montenegro can't get some information... Sometimes they don't respect the legal deadline of 15 days and even if they do, never send us information which we have... asked [for]... I think the decision makers and employees in ministries, employees in Elektroprivreda Crne Gore... they don't respect the voice of civil society organisations, because I think they look at us as if we are some threat. Just transition is a very complex process, which requires common efforts. Individual action won't lead anywhere.'

FALSE SOLUTIONS

Closely related to the issue of transparency and special interests is the amount of time, money and energy which a country invests into solutions which turn out to be unsustainable, uneconomic or both. Montenegro has been pursuing false solutions such as Pljevlja II, the Pljevlja rehabilitation and small hydropower plants, presumably due to their benefits for specific interest groups, which have diverted time, money and attention away from better solutions. The Pljevlja rehabilitation remains to be addressed, and although both the former and new governments have clearly pledged to move away from small hydropower plants, numerous projects are still in the pipeline, and tackling them is also diverting resources from other tasks.

'The environmental retrofit of the Pljevlja thermal power plant has been proposed with a cost of approximately EUR 50 million. No cost-benefit analysis was conducted nor any other assessment which could provide more information and justification for this investment. This investment is being used as an excuse to continue with coal-based electricity production until 2050.'

The other main threat in the near future is that of gas. Given Montenegro's lack of updated energy strategy, its plans in this area are not completely clear, but it plans to participate in the Ionian-Adriatic Pipeline (IAP), which would open the way for the use of more gas in the country. In August 2016, Croatia, Albania, Montenegro, Bosnia and Herzegovina and the representatives of State Oil Company of Azerbaijan (SOCAR) signed a Memorandum of Understanding on the constriction of the IAP and in June 2017 the government approved a gas master plan which provides different options for the gasification of Montenegro.⁴¹ Considering that Montenegro currently has no gas network, this would be a very large and complex investment into a network that would have to be replaced in a few years' time as fossil fuels are phased out. Moreover, the latest version of the project's feasibility study sees it as being in competition with the new LNG terminal on the Croatian island of Krk and states that new gas power plants in Croatia and Montenegro would be needed to make it viable,⁴² which would create additional fossil fuel lock-in in both countries.

LACK OF POLITICAL COURAGE TO CLOSE COAL MINES AND TACKLE JUST TRANSITION

The number of people employed in Pljevlja's coal mines has been steadily decreasing in recent years, from 1,200 in 2010⁴³ to around 670 in 2019.⁴⁴ A smaller number are also employed in the power plant, decreasing from 333 in 2010 to 171 in 2017.⁴⁵ Nevertheless, in a town with only a few other economic activities, the closure of the coal mine and plant certainly requires forethought and planning, together with clear calculations of how many employees would be able to stay on to undertake decommissioning and rehabilitation work at the site and for how long. The task is not insurmountable, but it needs local and national authorities to stand up and admit that it has to be done, which is what has been lacking so far.

First the workers were misled by plans to build Pljevlja II, then by unrealistic claims about the modernisation project extending the Pljevlja plant's life by 30 years, and now also by unfounded claims that the Energy Community Secretariat might grant the plant additional operating hours,⁴⁶ even though it has no mandate to do this.⁴⁷

At the same time, the President of the Pljevlja local authority has exaggerated the scale of the problem, claiming that almost 3,000 people will be unemployed if the plant and mine close,⁴⁸ whereas the real number is clearly under 1,000. This is not a negligible number, but exaggerating instead of planning a just transition for the community and concrete assistance for those affected is not helping the situation.

While the mine was still part-owned by Aco Đukanović it seemed likely that protecting his income was a major factor in delaying the closure of the mine. However, now that it is fully owned by EPCG, failure to close the plant and



mine seems to be more motivated by a combination of lack of other replacement capacity having come online and unwillingness to face the affected workers.

Having said this, however, our respondents did not see the coal workers as being a major organised force, and saw the problem mainly in the lack of preparation by the authorities.

'The pressure from coal mining unions does not play that much a significant role in Montenegro. The just transition discussion is also a neglected topic in Montenegro.'

'The people in Pljevlja are quite sure that the power plant and mine will not stop operating and they are sure because the people from the institutions – from the power plant, the coal mine, the local authorities – are convinced that it won't happen and they convince the public that this is the case.'

'...I think we don't have enough developed plans or we don't have any plan for just transition. And... for now, we don't have interest in just transition... My opinion is that independent of ecological reconstruction, we need to reach a just transition. And that is very important... Probably a huge percent of Pljevlja's citizens disagree with the coal power plant being shut down, especially citizens who work in the coal mine or Pljevlja power plant. It seems that the Montenegro government doesn't have a sufficiently developed plan for the decarbonisation process. This fact is confirmed by the fact that the Montenegro government still hasn't determined the coal phase-out year.'

The only moves so far towards discussing a just transition have been initiated by NGOs rather than the local or national authorities.⁴⁹ This was initially also the case in several other countries in central and eastern Europe, but if the transition is to succeed, it will need the local authorities and other local people to take ownership of the process. It is to be hoped that the launch of the new Coal Regions in Transition initiative for the Western Balkans and Ukraine⁵⁰ will help to concentrate minds on this task. At least one of our respondents is optimistic that the new government is at least thinking differently to the former one.

'I've spoken to the people from the Ministry for Capital Investments several times and I see that they think totally differently from the people in the former Ministry [of Economy]. I think they are more aware and that they see what is happening with the energy transition. They aren't as stubborn as the previous Ministry. They are conscious that the time is coming when coal will be a thing of the past.'

However, this has not been at all visible to the public yet, and it seems there is some fear of public reactions, even if not focused on the coal miners themselves.

'The people in the Ministry, for political reasons, don't want to... say publicly that the power plant reconstruction project may not be realised... In the media, they keep dragging on this story about negotiating for additional hours for the plant...'

A similar situation of avoiding the inevitable is also happening on the demand side, with the KAP aluminium factory, which employs at least 600 people.⁵¹ Although the plant's electricity consumption has decreased massively since its heyday, in 2019 it still constituted 16 per cent of the country's consumption – 560 GWh.⁵² This is not much less than the Piva hydropower plant generated in the same year – 665 GWh⁵³ – so it has significant implications for the country's energy supply. As mentioned above, the plant has officially been bankrupt since 2013 but is still operating, and its future is unclear.

Closing the plant would have a mixture of costs and benefits, on one hand freeing up electricity capacity and mitigating the need to invest in so much new generation capacity, but on the other hand resulting in declining income for EPCG – at least temporarily – a decline in exports and so on. The previous government does not seem to have come up with an overall cost-benefit plan for the country regarding different options for KAP, and we assume that lack of willingness to face up to the workers and ensure an income for them is one of main reasons.

OUTDATED VIEW OF THE ENERGY SECTOR, LACK OF KNOWLEDGE, AND LACK OF INTEREST IN CITIZEN ENERGY

While Montenegro has started to embrace the potential for renewable energy overall, still some outdated thinking is limiting its progress. The most obvious example is the plan to build a district heating network in the town of Pljevlja, connected to the coal plant.

The issues around the coal plant's lifetime extension have already been discussed above, and it is highly questionable whether the plant will even operate for long enough for a district heating network to be built. There is a strong risk of pouring immense resources into the development of a network and then either the plant closes and the money is wasted, or everything is done to keep the plant open to supply heating even if it is uneconomic. In addition, it is questionable whether a completely new district heating network makes sense at all in a location like Pljevlja, which is not very densely populated and might benefit more from decentralised solutions.

Like its neighbours, Montenegro has so far largely neglected the decentralisation aspect of energy transition, with the exception of its highly controversial small hydropower plants. Its 2014 energy strategy was very unambitious in this field, concentrating mainly on Pljevlja II and the Komarnica and Morača hydropower plants, and this is one of the reasons for its very low installed capacity in solar photovol-



taics. Nevertheless, in 2020 the government made changes to the Law on Energy, among other things with the aim of making it easier for prosumers to connect to the grid.⁵⁴ It has yet to be seen whether it will bear the expected results.

Similarly, much more effort is being made to invest in electricity generation than in energy savings, reflecting an outdated high production, high consumption model. Montenegro lost around 14.5 per cent of its electricity in the transmission and especially distribution networks in 2019.⁵⁵

Although Montenegro has in recent years appeared to be clearly moving towards renewables, there does not yet seem to be full consensus about the extent to which this should occur, with many in Pljevlja still firmly attached to coal and those on the national level more in favour of transition.

'On one side, there are people from Pljevlja [coal mine and power plant]... who literally do not believe and are convinced that our energy system cannot exist without the coal power plant, not only now but also in the future... And on the other side, there are... people in the government and ministry. Again these vary... – you have people with knowledge, who are professional, who think in a good way, but also some who are mainly led by political interests... and some who have power to make decisions but don't have enough knowledge.'

What our respondents particularly emphasised was a lack of specific expertise within the relevant public authorities since the new government took office in December 2020, as numerous top-level management have been changed in the energy sector. The process is still ongoing and may extend also to the lower levels. What remains to be seen is whether the new government will listen to those experts it has, or rather expect them to follow political decisions as the previous government did.

'It seems that we have limited intellectual capacity to solve the decarbonisation and just transition process. The solution is to involve people who have experience in this field and engage foreign experts so we could start with the process. Before that, we need to have political consolidation, which supports this operation – without that, the whole process does not have a point.'

'So, decisions are supposed to be made by people who might not be so much into this topic and who don't have enough knowledge about it.'

'... My view of the previous structure was that there were a lot of competent people with adequate education and knowledge but incapacitated by the political dictate which has rendered them a mere service to the interests of those [few] in power. Their performance

and the contribution to the greater good and well-being of the country was for the most part crippled by accepting such a demeaning role. Obviously, this impacted the energy transition process as well.'

'The new structure needs more time to show their true colours, but if we are to judge based on the first couple of months in the office, nothing spectacular will change. Lack of understanding of the importance of decarbonisation, increase of share of renewables and energy efficiency is still present. I don't expect any much-needed change for the better in the near future, unfortunately.'

INCOMPLETE IMPLEMENTATION OF EU RULES AFFECTING THE ENERGY SECTOR

Our respondents see Montenegro as generally good at transposing EU rules affecting the energy sector, but poor in implementation. Overall on the regional level, Montenegro is often seen as among the more advanced countries: for example, it was the top-scoring country in the Energy Community's implementation report 2020.⁵⁶

Our experience suggests that this may be due to the fact that other countries in the region have done particularly poorly in even transposing legislation in recent years, most notably environmental legislation, let alone implementing it, while Montenegro has at least continued with transposition.

'... Montenegro is good in adopting legal acts transposing latest EU Directives and Regulations, adopting Strategies supported by international funds and institutions, but when it comes to implementation of obligations I can observe that the level of implementation in practice is unsatisfactory.'

One very stark failure to implement the law is the fact that the Pljevlja power plant has exceeded the 20,000 hours allowed under Energy Community rules but is still operating.⁵⁷

'We have this situation with the power plant where we are not respecting international obligations, we are not complying with the Energy Community Treaty. The Pljevlja coal power plant is working without a valid integrated permit [due to exceeding the allowed operating hours]. We have all the environmental standards, but the emissions are not in line with the national legislation, nor with that of the EU.'

State aid enforcement in Montenegro remains a problem, but its coal sector does not benefit from direct subsidies to as large an extent as its neighbours.⁵⁸

'As in all Balkan countries, Montenegro is missing full enforcement of State aid rules. In some cases, State aid is given to public companies in non-transparent man-

ners. However, exposure of public debts from support measures to coal-based electricity production as a percentage of GDP has been declining in the past three years.'

POLITICAL INSTABILITY

After a long period of over-stability, in which it seemed that the DPS party would rule forever, there has been a much less stable period, which our respondents expect to continue due to the fragile coalition government that has been formed. This will certainly have knock-on effects for the transition, due to delaying important decisions and distracting the government and public from important tasks.

'Political instability does indeed negatively impact energy transition. It forces other political topics higher on the agenda and defers the discussion around energy transition.'

'In Montenegro, we are faced with an unstable political situation and the existence of the current government is considered to be for a short period of time due to huge misunderstandings among the parliamentary majority.'

'The political instability diverts attention from the real problems... Ever since the new government was formed there is constantly some wrangling with the opposition or in the coalition and so on.'

REAL TECHNICAL ISSUES

Our respondents did not see Montenegro as having technical problems to the extent that they would completely hinder the transition, but did point to some needs for investment.

'Energy transition requires significant energy network improvements. Technical limitations of networks from the aspect of renewables connection and insufficient flexibility of the system for balancing variable production from renewables are the main technical problems which the energy system is facing.'

'Considering the technical characteristics of the power system in Montenegro and the region, the biggest challenges in the operational work of the system with increased participation of wind power plants in the period until 2030 in terms of flexibility will be balancing short-term variability of wind production and secondary frequency regulation, and monitoring rapid changes in „net load“ in the „day ahead“ market.'

'I don't think real technical difficulties exist. What exists is the difficulty of people who think that everything is impossible. But I think that... everything is feasible and realistic.'

WHAT IS NEEDED TO OVERCOME THE BARRIERS TO A SUSTAINABLE ENERGY TRANSITION IN MONTENEGRO? WHICH ACTORS CAN PLAY A ROLE IN MOVING FORWARD THE SUSTAINABLE ENERGY TRANSITION IN THE COUNTRY?

The overall directions which need to be covered are outlined below, together with different steps necessary to achieve them and an outline of which actors could play a particular role. However, there are also a number of horizontal needs which need to be pursued in order to enable better decision-making on energy issues. All these need to be pursued as quickly as possible in order to advance Montenegro's energy transition.

HORIZONTAL NEEDS

- Montenegro's record in the rule of law needs to improve quickly if the energy transition is to succeed. This means reviewing decisions already taken and taking action against those responsible, as well as setting high standards for the new government.

'The rule of law is essential in supporting the energy transition. A functional and efficient judicial system is a prerequisite for the energy transition process.'

- After having one government in place for so long, it is clear that the new government will need time to get up to speed and that a lot of personnel changes are currently ongoing, including in the relevant public companies. The government needs to make sure all the people employed are sufficiently knowledgeable and that a sufficient number of staff is dedicated to energy transition.

'Solve the leadership crisis in the energy sector. Appointment of the competent, motivated, and result-based oriented leaders of the energy transition is a prerequisite for this step. Accountability and environmental integrity are of key importance.'

'Short- to mid-term capacity building and institutional building in line with EU climate and energy acquis... Solve the lack of technical knowledge and modelling capacities challenge. The outsourcing of the technical/ modelling work is not a viable option any longer.'

- Much more public dialogue is needed about energy transition and in particular the role of citizen energy and opportunities for energy savings. While the government needs to show greater willingness to drive this aspect of transition forward, NGOs and independent experts can play a strong role in ensuring this happens and communicating with the public, as well as reaching out to non-traditional allies who should have an interest in the quality of the transition taking place.



- Our respondents called for a stronger role by the EU in Montenegro as something which could help to speed up the transition. At the same time, they cautioned that it is not useful when decision makers are praised by international bodies for certain policy moves but not sufficiently criticised for problematic moves.

'So, you have the same people celebrating Montenegro as the frontrunner of the energy transition in the region, whose statements are admittedly supported by the regional organisations such as Energy Community etc., and on the other hand the same people supporting oil and gas drilling in the Montenegrin territorial sea in the Adriatic (just as an example).'

'A higher presence of the EU would result in a faster energy transition process.'

What is crucial is for the government to stop hiding from this question in public and start communicating about it. It needs to clearly stand behind its decisions and publicly communicate the rationale behind them. This might not be easy, but good preparation, clear communication and an effective plan can help.

'Our government needs to finally go out with a stance on the issue of the existence of the coal sector, because until now we have not heard anything about this issue from the government... If they really understand, and if there is evidence that this [Pljevlja modernisation] project is not feasible and that in the future it will bring greater harm than good, then they need to take decisions accordingly... to rise above their political interests and... focus on the substance.'

'Decision makers can also position themselves in the energy transition as someone who makes good decisions and earns the trust of the public for this.'

MAIN DIRECTIONS FOR ENERGY TRANSITION

1. Urgently assess and publicly clarify what to do about the Pljevlja coal plant and KAP

Although these cannot be isolated from the country's overall strategy in the energy sector, the future of the coal plant in particular is extremely urgent. It has to be closed at least temporarily due to having run out of operating hours, and the welfare of the plant and mine workers has to be ensured. But deciding whether to go ahead with the modernisation project is also urgent, considering the contract has already been signed and the main project developed. This has to be done on the basis of reliable, publicly available calculations.

If the plant is closed permanently Montenegro will have to import electricity for several years while it completes its planned solar and wind projects and increases its energy efficiency, particularly by reducing network losses. But it can reach a balance between generation and consumption much more quickly if the KAP plant closes, which again has costs and benefits that need to be transparently assessed.

'We need to clarify the attitude of the government regarding the transition process. It needs to collect all relevant actors who can be helpful. In the first row, the scientific community, then civil society and the NGO sector which has different projects, which means that they have funds which can support action. The current situation looks like the government, line ministries, line institutions, etc. do not have either a plan or ambition to start acting.'

'I think [the previous government was] in a better position. [Because] the thermal power plant was under the opt-out mechanism. So I think it has given comfort and freedom for them and the possibility to not give answers to some important questions: for example..., what will happen after the opt out mechanism has run out and etc. Now the situation is more difficult because... I know that the Ministry of Capital Investment and our government don't have a plan...'

2. Develop a long-term ambitious vision and open up Montenegro's market.

Montenegro is currently working on its NECP, which provides an opportunity to have a real debate about the country's energy future and maximise the use of its advantages. The policies put in place need to be ambitious enough to go beyond the projects already planned and must be in line with full decarbonisation by 2050 at the latest, but this should be possible much, much earlier for Montenegro.

'From my point of view, to bring a concrete strategic plan for energy or just transition. Because I think we only have a strategic plan up to 2030. I think we have to forecast more to 2050 and to bring a strategy which will be related to that year and in that strategy to predict a deadline for phase-out for the thermal power plant and a deadline for and run out of non-renewable resources.'

'Development of the new and ambitious climate-energy development strategy or NECP in line with the EU. Discontinuity with the previous approaches, assumptions and mind-sets is a prerequisite for this step. [An] integrated approach, including all relevant sectors and energy efficiency, is of key importance. [Also] implementation and enforcement and periodic revisions to keep the national targets within reach.'

Particular emphasis needs to be given to energy efficiency, e.g. by reducing distribution losses, insulating houses and installing more heat pumps instead of old-style electric heating, as these can help mitigate any increase in demand from electrification of transport and other factors. Any programmes for this purpose need to take account of the need for funds, and in particular need to be designed to assist those in energy poverty.

'[There is a] lack of financial funds for investing in new energy efficient technologies [and] there is no poverty reduction strategy in Montenegro, nor is there a defined method for identifying and monitoring energy poverty, and there are currently no programmes aimed specifically at energy-poor households.'

'There is great interest from people who would perhaps change to another means of heating, including me... On the other hand, it is important for the state to promote other types of installations that use renewable energy which are much more efficient than e.g. wood. Of course the main problem in Montenegro is financing..., considering the average pay of five hundred euros [per month]. I also think people are not aware how much such investments pay off...'

Our respondents did not see any particular problems in Montenegro's willingness to cooperate regionally, but one underlined the importance of doing more to open the markets.

'Regional cooperation on imbalance netting, share and exchange of auxiliary services (power control reserves and balancing energy) between the Serbia, North Macedonia and Montenegro (SMM) control block will increase flexibility for more renewables and decrease the operating costs. Market integration is an important element to promote network flexibility and integration of renewables.'

Regional cooperation is crucial for the efficient implementation of the energy transition, and especially for the efficient integration of renewables. Also, establishing functional electricity markets (including the intraday market) and interconnecting them to EU markets should be one of priorities.'

At the moment, most planned projects are EPCG's large-scale renewables projects, and EPCG is seen to continue having a strong importance. But given the country's small size, our respondents saw a role for almost everyone in advancing the energy transition. Clearly specific institutions will have to take the lead in coordination.

'The just transition process needs togetherness, but if Montenegro wants to start with it, first of all political determination is needed. So, the government of Montenegro, line ministries and institutions have to start a wave of change. Only in that case the people from Pljevlja who will be affected more than other Montenegrin citizens by the just transition process will know that the state stays behind them and it won't leave them stranded.'

'Ideally, we would have a certain number of university professors which could provide the academic/theoretical support to the process. Then you would need strong political actors which proactively promote the energy transition as part of their political programmes. Next, you would need competent representatives from the government authorities, and finally a vibrant private and civil society sector.'

3. Make the most of Montenegro's citizen energy potential and mobilise local authorities and businesses.

Large wind and solar energy projects are generally making headway in Montenegro and should continue to do so, but citizen energy and the potential for self-generation by businesses is not being maximised. While the government clearly has ultimate responsibility for changing legislation and implementing incentive schemes, NGOs and those who have already installed their own solar photovoltaics or mini wind turbines clearly have useful experience and proposals to share, which the government should make more use of. Clearly such projects only make sense if energy efficiency has first been maximised within households, so sufficient incentives are also needed to realise this.

'Energy efficiency is also getting special importance and it is in the focus of new local and national policies. However, financial mechanisms are missing for implementation of energy efficiency measures.'

'I think we could all profit from a successful energy transition in the country, even individual citizens... I see there is great interest among the public for e.g. installing solar collectors or solar panels... People who directly include themselves in the energy transition can benefit by producing and consuming their own energy.'

4. Advance transition in transport and heating

Montenegro's transition is starting to happen in the power sector but not so much in the transport and heating sectors. The widespread use of inefficient electrical heaters is a clear opportunity for improving comfort levels and reducing electricity bills by replacing them with heat pumps, and the widespread use of biomass in households can also be made much more efficient, or preferably also replaced by heat pumps.

As transport in Montenegro mostly consists of individual motorised vehicles, there is high scope for both electrification of those vehicles and for improvement of e.g. public transport and infrastructure for non-motorised transport in the main cities.

'Definitely in the coming period much more effort needs to be put into [the use of renewable energy in transport] and in developing concrete measures... Electrification needs to be increased.'

5. Avoid being distracted by unsustainable energy sources such as oil and gas, new hydropower, or unproven/unavailable technologies such as renewable hydrogen.

Montenegro needs to plan for a future leapfrogging of the gas era and go straight to renewables and electrification. This means it should stop plans for oil and gas exploration,



as well as for the Ionian Adriatic Pipeline and the gasification of the country. Any investment in gas will need to be reversed in just a few years' time, making it the wrong choice.

The government also needs to review the plans for the Komarnica hydropower plant. Although this has not been subject to as much public controversy as the Morača hydropower plants and the Pljevlja II coal plant, it would still be located in an Emerald protected area that has not been properly researched, and it would only add more unpredictable hydropower capacity in a country that already has up to two-thirds of generation from hydropower in rainy years and as little as one-third in dry years. The need for it in terms of electricity demand and its economic feasibility have not been convincingly presented in public.⁵⁹

ENDNOTES

- 1 Eurostat, DEMO-GIND, data for 1 January 2020; <https://ec.europa.eu/eurostat/databrowser/view/tps00001/default/table?lang=en>.
- 2 EPCG website, <https://www.epcg.com/o-nama/proizvodni-objekti>, last accessed 17 February 2021.
- 3 Fortum, Fortum-led consortium wins Ulcinj solar tender in Montenegro, 22 October 2018; <https://www.fortum.com/media/2018/10/fortum-led-consortium-wins-ulcinj-solar-tender-montenegro>.
- 4 Energy Community Ministerial Council, Decision 2012/04/MC-EnC, 18 October 2012; https://www.energy-community.org/dam/jcr:f2d4b3b8-de85-41b2-aa28-142854b65903/Decision_2012_04_MC_RE.pdf.
- 5 Montenegro, Third Progress Report on promotion and use of energy from renewable energy sources, March 2020; https://www.energy-community.org/dam/jcr:5dfac2b4-b0bd-4204-a820-86555cb2d2fd/MO_3RES_progress_032020.pdf.
- 6 Eurostat, NRG_IND_REN, https://ec.europa.eu/eurostat/databrowser/view/nrg_ind_ren/default/table?lang=en, last accessed 2 June 2021.
- 7 Eurostat, NRG_IND_REN; https://ec.europa.eu/eurostat/databrowser/view/nrg_ind_ren/default/table?lang=en.
- 8 Energy Community, Implementation Report for Montenegro 2020, November 2020; <https://www.energy-community.org/implementation/Montenegro.html>.
- 9 International Energy Agency, Total energy supply (TES) by GDP, Montenegro, 1990-2018, *IEA Data and Statistics*, <https://www.iea.org/data-and-statistics?country=MONTENEGRO&fuel=Energy%20transition%20indicators&indicator=TPESbyGDP>, last accessed 1 April 2021.
- 10 International Energy Agency, Share of total final consumption (TFC) by sector, Montenegro, 1990-2018, *IEA Data and Statistics*, <https://www.iea.org/data-and-statistics?country=MONTENEGRO&fuel=Energy%20consumption&indicator=TFCbySector>, last accessed 1 April 2021.
- 11 Eurostat, Table [tran_hv_psmo], 2018 data; https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=tran_hv_psmo&lang=en.
- 12 Monstat, Statistical Yearbook 2020, Transport section, 2020; http://monstat.org/uploads/files/publikacije/godisnjak_2020/20.pdf.
- 13 Igor Todorović, Montenegro to let people decide on offshore oil after exploratory drilling, *Balkan Green Energy News*, 24 March 2021; <https://balkangreenenergynews.com/montenegro-to-let-people-decide-on-offshore-oil-after-exploratory-drilling/>.
- 14 Eurostat, Energy Dependence %, Table T2020_RD320, last updated 8 February 2021; https://ec.europa.eu/eurostat/databrowser/view/t2020_rd320/default/table?lang=en.
- 15 Regional Cooperation Council, Green Agenda for the Western Balkans, 10 November 2020; <https://www.rcc.int/docs/548/green-agenda-for-the-western-balkans>.
- 16 Ministry of Economy of Montenegro, Strategija razvoja energetike Crne Gore do 2030. godine, May 2014; <http://www.mek.gov.me/ResourceManager/FileDownload.aspx?rid=199663&rType=2&-file=Strategija%20razvoja%20energetike%20CG%20do%202030.%20godine.pdf>.
- 17 Alisa Hajdarpašić, Poslije potopa nema kajanja, *Vijesti*, 13 August 2020; <https://www.vijesti.me/vijesti/drustvo/460093/poslije-potopa-nema-kajanja>.
- 18 Investitor, Šta se (ne) dešava u KAP-u: Pravnoj službi "dat nalog" za pisanje otkaza, čeka se četvrtak i vladina komisija, 6 March 2021; <https://investitor.me/2021/03/06/sta-se-ne-desava-u-kap-u-pravnoj-sluzbi-dat-nalog-za-pisanje-otkaza-cka-se-cetvrtak-i-vladina-komisija/>.
- 19 Investitor, Šta se (ne) dešava u KAP-u: Pravnoj službi "dat nalog" za pisanje otkaza, čeka se četvrtak i vladina komisija, 6 March 2021; <https://investitor.me/2021/03/06/sta-se-ne-desava-u-kap-u-pravnoj-sluzbi-dat-nalog-za-pisanje-otkaza-cka-se-cetvrtak-i-vladina-komisija/>.
- 20 Balkan Green Energy News, EPCG signs agreement on TPP Pljevlja environmental overhaul, *Balkan Green Energy News*, 10 June 2020; <https://balkangreenenergynews.com/epcg-signs-agreement-on-tpp-pljevlja-environmental-overhaul/>.
- 21 PV Novine, Eko-Tim: Objaviti studiju ekonomske opravdanosti rekonstrukcije TE Pljevlja, 24 July 2020; <https://pvnovine.com/eko-tim-objaviti-studiju-ekonomske-opravanosti-ekoloske-rekonstrukcije-te-pljevlja/>.



- 22 Balkan Green Energy News, EPCG signs agreement on TPP Pljevlja environmental overhaul, Balkan Green Energy News, 10 June 2020; <https://balkangreenenergynews.com/epcg-signs-agreement-on-tpg-pljevlja-environmental-overhaul/>.
- 23 See Montenegro's reports to the European Environment Agency; <http://cdr.eionet.europa.eu/me/eu/energycommunity/envyf3gna/>.
- 24 Vijesti, Boje Jutra – Budućnost termoelektrane Pljevlja, Vijesti, 23 February 2021; <https://www.youtube.com/watch?v=NNMsILL3sZ4>.
- 25 Energy Community, Implementation Report for Montenegro 2020, November 2020; <https://www.energy-community.org/implementation/Montenegro.html>.
- 26 Centar za istraživačko novinarstvo Crne Gore, Državna pomoć bivše vlade privatnoj kompaniji skrivena iza brige u ekologiji: Elektroprivreda platila KAP-u 17 miliona eura za ništa, 11 April 2020; <http://www.cin-cg.me/drzavna-pomoc-bivse-vlade-privatnoj-kompaniji-skrivena-iza-brige-u-ekologiji-elektroprivreda-platila-kap-u-17-miliona-eura-za-nista/>.
- 27 Vladimir Spasić, Montenegro leading energy transition in region, *Balkan Green Energy News*, 13 June 2019; <https://balkangreenenergynews.com/montenegro-leading-energy-transition-in-region/>.
- 28 Center for Public Integrity, Djukanović's Montenegro: A family business, 2 June 2009, updated 19 May 2014; <https://publicintegrity.org/health/djukanovics-montenegro-a-family-business/>.
- 29 Milorad Milošević, Goran Kapor, Akcije Rudnika 4,24, ali kada treba Acu Đukanoviću – 6,4 eura, *Vijesti*, 28 March 2018; <https://www.vijesti.me/vijesti/ekonomija/37363/akcije-rudnika-4-24-ali-kada-treba-acu-djukanovicu-6-4-eura>.
- 30 Ines Mrdović, Rudnik uglja ili rudnik nepostojećeg kapitala, *MANS*, 7 May 2018; <https://www.mans.co.me/rudnik-uglja-ili-rudnik-nepostojećeg-kapitala/>.
- 31 CEE Bankwatch Network, Montenegro drops Skoda Praha as partner for Pljevlja II coal plant – now time to drop the project altogether, *CEE Bankwatch Network*, 4 January 2018; <https://bankwatch.org/blog/montenegro-drops-skoda-praha-as-partner-for-pljevlja-ii-coal-plant>.
- 32 Vladimir Spasić, Nikola Rovčanin appointed new director of Montenegrin power utility EPCG, *Balkan Green Energy News*, 25 March 2021; <https://balkangreenenergynews.com/nikola-rovcnin-appointed-new-director-of-montenegrin-power-utility-epcg/>.
- 33 Centralni registar privrednih subjekata Crne Gore (CRPS) website, <http://www.pretraga.crps.me:8083/>, last accessed 9 April 2021.
- 34 The minutes from the bid-opening event can be found (in the local language) at: https://drive.google.com/file/d/1SVIQ77L-BOLvFqgr7c5gwyTVtzwO_QQ2G/view?usp=sharing The complaints were registered on p. 25; https://drive.google.com/file/d/1SVIQ77L-BOLvFqgr7c5gwyTVtzwO_QQ2G/view?usp=sharing.
- 35 Available (in the local language) at: <https://drive.google.com/file/d/1Vpt-0g12MHE2QpxzO3YwkT5CfG6B/view?usp=sharing>. The response to the complaint about technical compliance is discussed on p. 42.
- 36 Biljana Matijašević, Milioni za Termoelektranu u Specijalnom tužilaštvu, *Vijesti*, 3 April 2021; <https://www.vijesti.me/vijesti/ekonomija/526787/milioni-za-termoelektranu-u-specijalnom-tuzilastvu>.
- 37 MANS, Case Study: Small Hydropower Plants Or Business For The Privileged Ones, *MANS*, November 2017; <http://www.mans.co.me/en/wp-content/uploads/2018/02/CStudyNov2017.pdf>.
- 38 Samir Kajosevic, Montenegrin Government Takes Tough Line on Harmful Hydropower Plants, *Balkan Insight*, 9 February 2021; <https://balkaninsight.com/2021/02/09/montenegrin-government-takes-tough-line-on-harmful-hydropower-plants/>.
- 39 Balkan Green Energy News, EU expects Montenegro to investigate Možura wind farm allegations, *Balkan Green Energy News*, 18 August 2020; <https://balkangreenenergynews.com/eu-expects-montenegro-to-investigate-mozura-wind-farm-allegations/>.
- 40 Radomir Ralev, Montenegro to probe Možura wind farm deal – deputy PM, *Renewables Now*, 8 March 2021; <https://renewablesnow.com/news/montenegro-to-probe-mozura-wind-farm-deal-deputy-pm-733693/>.
- 41 COWI/IPF, Master plan razvoja gasnog transportnog sistema (gasifikacije) – određivanje prioritetnih projekata u Crnoj Gori, November 2015, approved by the Government on 22 June 2017; <https://www.gov.me/ResourceManager/FileDownload.aspx?rId=279134&rType=2>.
- 42 Economic Consulting Associates, South East Europe Gas Power Consortium Final Report Task 2 – IAP Feasibility, World Bank, Energy Community Secretariat, Western Balkans Investment Framework, February 2018; https://www.energy-community.org/dam/jcr:265fe646-8eef-4094-97c1-79b178eba511/ECA_IAP_feasibility_022018.pdf.
- 43 Ioana Ciuta and Pippa Gallop, The Great Coal Jobs Fraud, 2018 update, *CEE Bankwatch Network*, June 2018; <https://bankwatch.org/wp-content/uploads/2018/06/Jobs-study-june-2018-update-ENG-CEE-Bankwatch.pdf>.
- 44 BDO, Rudnik Uglja a.d. Pljevlja Finansijski iskazi za 2019. godinu u skladu sa računovodstvenim propisima Crne Gore i Izvještaj nezavisnog revizora, 23 April 2020; http://173.249.20.164:89/Data/Download?folder=RUDNIK_UGLJA&file=RUPV_2019%20god%C5%A1nji%20izvje%C5%A1taj_dopuna26.6.2020..pdf.
- 45 No more updated figures were found. Ioana Ciuta and Pippa Gallop, The Great Coal Jobs Fraud, 2018 update; <https://bankwatch.org/wp-content/uploads/2018/06/Jobs-study-june-2018-update-ENG-CEE-Bankwatch.pdf>.
- 46 Vijesti, Rad TE Pljevlja biće produžen, manje štetna od ljeta 2022., *Bankar.me*, 1 February 2021; <https://www.bankar.me/2021/02/01/rad-te-pljevlja-bice-produzen-manje-stetna-od-ljeta-2022/>.
- 47 In theory, the European Council can allow this to happen but the Director of the Energy Community has assessed this as extremely unlikely considering Montenegro has had since 2006 to comply with the Large Combustion Plants Directive. Igor Todorović, Kopač: EU won't extend deadline for closure of thermal power plant Pljevlja, *Balkan Green Energy News*, 11 February 2021; <https://balkangreenenergynews.com/kopac-eu-wont-extend-deadline-for-closure-of-thermal-power-plant-pljevlja/>.
- 48 Investitor.me, Zatvaranjem TE Pljevlja bez posla bi ostalo skoro 3.000 zaposlenih, 27 January 2021; <https://investitor.me/2021/01/27/zatvaranjem-te-pljevlja-bez-posla-ostaje-skoro-3-000-zaposlenih/>.
- 49 PVPortal.me, Platforma za pravednu tranziciju podnijela Inicijativu za diversifikaciju privrednog razvoja opštine Pljevlja, *PVPortal.me*, 10 July 2020; <https://pvportal.me/2020/07/platforma-za-pravednu-tranziciju-podnijela-inicijativu-za-diversifikaciju-privrednog-razvoja-opstine-pljevlja/>.
- 50 European Commission, Commission launches the secretariat of a new initiative for coal regions in transition in the Western Balkans and Ukraine, 15 February 2021; https://ec.europa.eu/info/news/commission-launches-secretariat-new-initiative-coal-regions-transition-western-balkans-and-ukraine-2021-feb-15_en.
- 51 Investitor, Šta se (ne) dešava u KAP-u: Pravnoj službi “dat nalog” za pisanje otkaza, čeka se četvrtak i vladina komisija, *Investitor*, 6 March 2021; <https://investitor.me/2021/03/06/ta-se-ne-desava-u-kap-u-pravnoj-sluzbi-dat-nalog-za-pisanje-otkaza-cka-se-cetvrtak-i-vladina-komisija/>.
- 52 Government of Montenegro, Odluka o energetsom bilansu Crne Gore za 2021. godinu, 27 November 2020; https://www.google.com/url?sa=t&rct=j&q=&src=s&source=web&cd=&ved=2ahUKewie5dOn6PhvAhUyh_0HHf0kDDIqfAAegQIAhAD&url=https%3A%2F%2Fwww.gov.me%2FResourceManager%2FFileDownload.aspx%3Frid%3D420571%26rType%3D2&usg=AOvVaw0WzcN74564x-hDKcSOGtf5H.
- 53 Government of Montenegro, Odluka o energetsom bilansu Crne Gore za 2021. godinu, 27 November 2020; <https://www.gov.me/ResourceManager/FileDownload.aspx?rId=420571&rType=2>.
- 54 Vladimir Spasić, Montenegrin government proposes Law on Energy, eases rules for prosumers, *Balkan Green Energy News*, 15 June 2020; <https://balkangreenenergynews.com/montenegrin-government-proposes-law-on-energy-eases-rules-for-prosumers/>.
- 55 Government of Montenegro, Odluka o energetsom bilansu Crne Gore za 2021. godinu, 27 November 2020; <https://www.gov.me/ResourceManager/FileDownload.aspx?rId=420571&rType=2>.
- 56 Energy Community Secretariat, Implementation Report 2020, November 2020; <https://www.energy-community.org/implementation/IR2020.html>.
- 57 Energy Community Secretariat, Secretariat launches dispute settlement procedure against Montenegro for breaching Large Combustion Plants Directive as TPP Pljevlja exhausts 'opt-out', 20 April 2021; <https://www.energy-community.org/news/Energy-Community-News/2021/04/20.html>.

- 58 Energy Community Secretariat, Two billion euros burnt in coal subsidies by Energy Community Contracting Parties in 2015–2019, 2 December 2020; <https://energy-community.org/news/Energy-Community-News/2020/12/02.html>.
- 59 Alisa Hajdarpašić, Poslije potopa nema kajanja, *Vijesti*, 13 August 2020; <https://www.vijesti.me/vijesti/drustvo/460093/poslije-potopa-nema-kajanja>.



NORTH MACEDONIA





ENERGY SECTOR OVERVIEW

Coal-fired thermal power plants and hydropower plants make up the main electricity generation capacity in North Macedonia. The total installed capacity is 2.09 GW with 49.5 per cent thermal power plants, around 33.4 per cent large and small hydropower plants, 13.8 per cent gas combined heat and power plants and 3.2 per cent other renewables.¹ The main electricity generation company is the state-owned company *Elektrani na Severna Makedonija* (ESM), formerly known as ELEM, with around 70 per cent of the total installed capacity. ESM is the owner of the two large coal-fired thermal power plants, Bitola and Oslomej, and their associated lignite mines.

In recent years electricity generation from coal has been decreasing steadily, reaching around 60 per cent of domestically generated electricity in 2019, complemented by around 20 per cent from hydropower and 16.4 per cent from gas.² Despite being one of the first countries in the region to install a wind farm, Bogdanci, which started commercial operations in 2015, renewables installation has grown very slowly in the country in recent years, though it does now look set to speed up.

North Macedonia has relatively high net electricity imports, despite an overall decrease in electricity consumption in recent years, primarily due to the industry sector.³ Compared to other countries in the region, North Macedonia, together with Croatia, has one of the highest shares of import of electricity, but the share did fall from 33.5 per cent in 2015 to 24.4 per cent in 2019.⁴

In 2012 North Macedonia committed to achieve 28 per cent of gross final energy consumption from renewable energy, compared to a 2009 level of 21.9 per cent. However in 2018, after a revision of its biomass data, both the baseline and target were revised, to 17.2 per cent and 23 per cent respectively.⁵ In 2019, renewable energy sources accounted for 16.8 per cent of gross final energy consumption,⁶ which

was actually lower than previous years, due to poor hydrological conditions, so it seems the country has missed its target by a long way. North Macedonia's draft National Energy and Climate Plan (NECP) blames this on lack of progress with introducing biofuels in transport;⁷ however, a stagnation in renewable electricity installation between 2015 and 2019⁸ most likely also contributed.

North Macedonia's target primary energy consumption for 2020 was 3,014 kilotonnes of oil equivalent (ktoe) and its final energy consumption target 2,093 ktoe. Final official figures are not available yet, but the Energy Community's 2020 Implementation Report showed Primary Energy Consumption of 2,521 ktoe in 2018.⁹ In terms of energy consumption, each citizen in North Macedonia consumes, on average, about 1.2 tonnes of oil equivalent (toe) of primary energy, which is 1.8 times lower than the EU 28 average.¹⁰

On the other hand, the country's energy intensity is 2.5 times as high as the EU average.¹¹ The transport and residential sectors have high shares of total final energy consumption and have very high potential for improvements.¹²

The most common forms of heating residential buildings are wood (nearly 62 per cent of households) and electricity (nearly 29 per cent), with 8.3 per cent of households connected to the only functioning district heating system in Skopje (running on gas and fuel oil as a backup) and 1.5 per cent using other fuel types.¹³

Private road transport predominates for passenger transport, though buses and coaches made up 23 per cent of passenger kilometres in 2018, with rail much lower at 0.6 per cent.¹⁴ The situation with freight is unclear.¹⁵

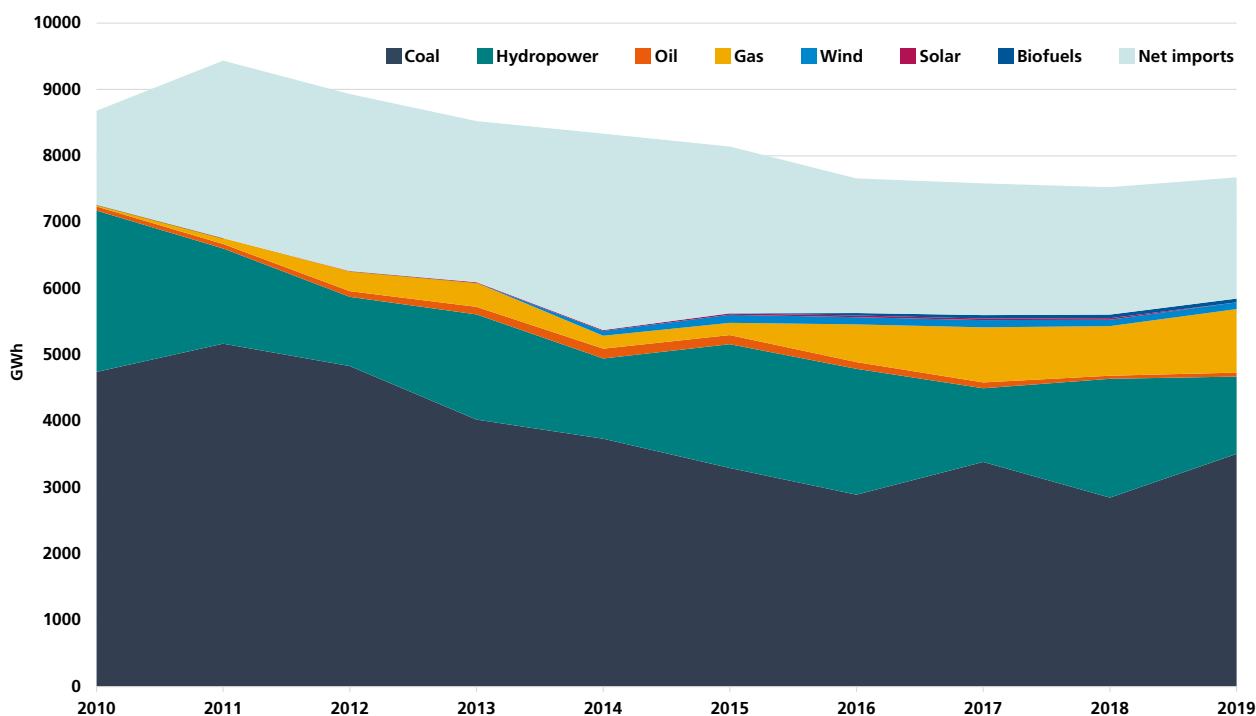
North Macedonia does not extract its own oil and gas, and together with its electricity import dependence, net energy import dependence was 58.5 per cent in 2019, similar to the EU-28 average for the same year of 57.8 per cent,¹⁶ but higher than most other countries in the region.

Table 1
Installed capacity of electricity generation facilities in North Macedonia, 2019

Energy source	MW	Per cent
Coal	1,034	49.5
Large hydropower	586.65	28.1
Small hydropower	111.43	5.3
Gas	287.4	13.8
Wind	36.8	1.8
Solar	24	1.1
Biogas	6.8	0.3
Biomass	0.6	0

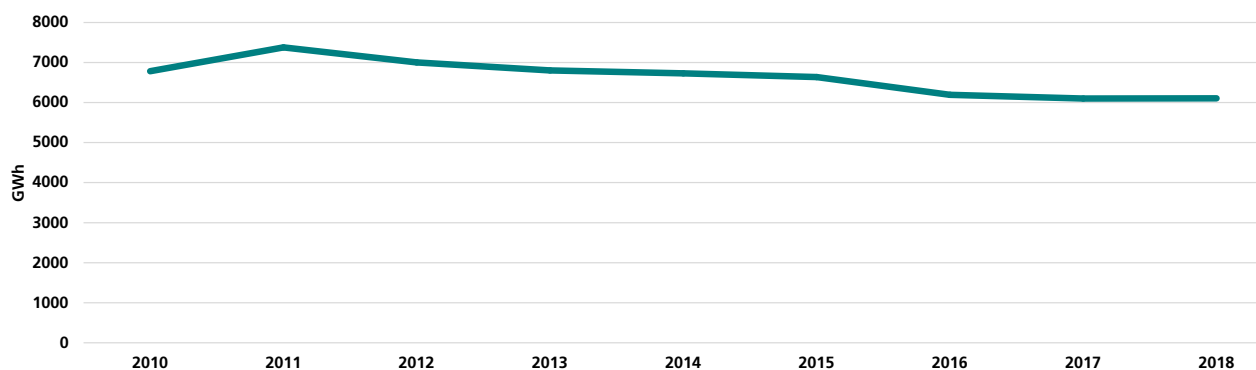
Source: Energy and Water Regulatory Commission, Annual Report 2019; [https://erc.org.mk/odluki/Annual Report ERC 2019 - EN.pdf](https://erc.org.mk/odluki/Annual%20Report%20ERC%202019-EN.pdf)

Figure 1
Electricity generation in North Macedonia, 2010–2019



Source: IEA Statistics, <https://www.iea.org/data-and-statistics/data-tables?country=NORTHMACEDONIA&energy=Electricity&year=2010>

Figure 2
Electricity consumption in North Macedonia



Source: IEA Statistics, Electricity, <https://www.iea.org/data-and-statistics/data-tables?country=NORTHMACEDONIA&energy=Electricity&year=2010country=NORTHMACEDONIA&energy=Electricity&year=2010>

NORTH MACEDONIA'S ENERGY POLICIES

The main cornerstone of North Macedonia's energy policy is the Energy Law,¹⁷ adopted in 2018, which transposed the Third Energy Package in the electricity and natural gas sector, and introduced a new renewable energy support system. In February 2020, an Energy Efficiency Law¹⁸ was adopted, which, with the relevant by-laws, transposes the EU Energy Efficiency Directive 2012/27/EU, Energy Performance of Buildings Directive 2010/31/EC and a package of regulations for energy efficient products (labelling and eco-design).¹⁹

As stipulated by the Energy Law, an Energy Strategy was adopted in December 2019.²⁰ The Energy Strategy depicts

three scenarios – Reference, Moderate Transition and Green – which reflect different dynamics of energy transition. The Strategy does not choose between the scenarios but presents the options based on different levels of ambition regarding energy efficiency, renewables deployment, use of electric vehicles, and dates of entry into the EU Emissions Trading Scheme (ETS) (2023, 2025 or 2027). Macedonia's increased climate ambition is clear throughout the text, as options for coal phase-out dates are provided (2025 or 2040), and CO₂ taxes, a socially responsible just transition and the creation of green jobs are mentioned. An increase in the share of renewables is also very visible and ambitious in the strategy. However, in late 2020 an update was carried out, which as of late May 2021 does not appear to have been approved.



In January 2021 further confusion arose as the Director of the Bitola power plant announced that the first unit would be converted to a gas combined heat and power (CHP) plant after closing in 2026, the second would close in 2032 and the third only in 2040. He stated that electrostatic precipitators will be installed in units 2 and 3 by 2023, and desulphurisation should start in 2026.²¹ However, this timeline makes no sense with regard to the coal phase-out dates proposed in the Energy Strategy.

As of early May 2021, the programme for implementing the Energy Strategy is currently in the final phases of preparation but is not yet available to the public. It proposes the Green Scenario from the strategy as the most financially viable option. However, a feasibility study for converting one unit of the Bitola power plant to natural gas is one of the steps envisaged in the measures on energy security in the draft document.

The country has adopted its second Nationally Determined Contribution (NDC), with a target of 51 per cent greenhouse gas emission reductions by 2030 compared to 1990 levels. This also requires accelerated emissions cuts compared to the current situation.²²

Development of a Long-term Strategy²³ and a Law on Climate Action²⁴ is also underway as of May 2021, supported by the EU Instrument for Pre-Accession Assistance (IPA II) funding mechanism. Most of the greenhouse gas emissions in 2016 occurred in the energy sector (51.0 per cent), followed by transport (28.1 per cent) and the manufacturing industries and construction (13.9 per cent). Transport and waste are both sectors with the fastest growing emissions in the country.

The first draft of the NECP was submitted to the Energy Community in November 2020 and has received recommendations.²⁵ The Secretariat welcomed the general targets proposed, namely an 82 per cent greenhouse gas net emissions reduction relative to 1990 levels by 2030, a 20.8 per cent saving of final energy consumption and a 34.5 per cent saving of primary energy consumption relative to the business-as-usual scenario, and a 38 per cent share of renewable sources in gross final energy consumption by 2030.

WHY IS NORTH MACEDONIA'S ENERGY TRANSITION NOT ADVANCING MORE QUICKLY?

LACK OF CAPACITY AND PROFESSIONALISM IN THE CLIMATE AND ENERGY SECTOR

Our respondents put by far the most emphasis on lack of capacity and professional staff as a key reason why North Macedonia's energy transition is not progressing faster.

'I would say that unprofessionalism is the first and main reason for inactivity and wrong decisions of decision makers in this sector, maybe corruption can be added as a secondary one.'

'Frequent change of government, unprofessional political elites slows down the energy transition.'

'The current concept of the energy system is not outdated. Decision makers lack knowledge, but even more lack the desire to seek answers to energy questions in a wider professional circle of specialists in many fields.'

'We cannot expect a transition without significant investments in renewables, and adequate and professional staff is a prerequisite for a larger share of renewables in total energy production.'

'Insufficient expertise, know-how and professionals in the field of renewable energy sources is a big problem in the energy sector.'

'The country is trapped in the inability to realise even relatively simple things already agreed. This also applies to the private sector. Even in the field of fossil fuel use we are slow.'

'Declarative and operational efforts are made to meet the requirements of the regulation and nominally care is taken for its implementation, I even think that there is no lack of political will. The problem seems to me to be in the essential total bureaucratisation and inability to complete even relatively limited projects. Authorities must work on the capacity of institutions and companies as a first priority.'

The EU enlargement report for North Macedonia in 2020 agrees that administrative capacity at all levels remains weak and financial resources are still insufficient to implement existing legislation.²⁶ For example, it underlined the need to increase the number of staff as well as the technical/engineering capacity of the Energy Department in the Ministry of Economy and the Energy Agency. There is also a lack of staff within the climate and legal sectors in the Ministry of Environment and Spatial Planning. The energy department in the Ministry of Economy is seriously understaffed and planning is needed to ensure implementation of new and amended legislation. Capacity at the local level is also lacking, which not only hinders energy transition, but also slows down action on air pollution.

UNCLEAR LONG-TERM GOALS AND PLANNING, PARTICULARLY FOR COAL PLANT CLOSURE AND JUST TRANSITION

The energy transition in North Macedonia started without a clear strategy and goals, which led to stagnation from around 2015 to 2019. This is now slowly being resolved, but it has cost precious time and made the country late with addressing its coal closure issues.

The future of coal in the country is less and less attractive, due to its low quality, limited reserves, the improvement of European environmental legislation and competition from



the renewables sector. The impact of these trends is already being felt in the southwest where the Oslomej plant, whose working life is almost at an end, is located, as well as in the Bitola region, where the plant is also expected to close in a few years. These plants have a significant effect on the local economy and employment. The lack of a clear strategic approach in managing these effects on time and in an integrated manner is obvious, as there is a lack of institutional initiatives for preparing the transition to the post-lignite era, at least as far as the public is aware.

After several years of stagnation, the number of documents to be approved and slow progress with this is delaying actual implementation. For example, the programme for implementation of the Energy Strategy should have been adopted in summer 2020 (six months after the adoption of the Energy Strategy) but as of early May 2021 still has not been adopted. In the meantime, the Energy Strategy was adjusted, which took up yet more time, and the country's coal phase-out date is still not clear.

Our respondents evaluate the Energy Strategy as a reasonably good start, but not enough on its own.

'The main advantage of the Energy Strategy is its comprehensiveness, which means it offers a good starting point on which further work needs to be done in order to obtain a programme for implementation.'

'The analyses in the energy strategy are well quantified, but a detailed analysis of the risks is missing, which in my opinion has a great impact.'

They see the lack of long-term planning that has prevailed partly as a result of political factors, including short-sighted election-cycle-based planning, as well as the lack of innovation due to the domination of two parties for so long.

'... Air pollution does not understand the concept of four-year terms. Nor does energy. It requires far longer-term planning. In terms of energy, a period of four years is tomorrow or the day after tomorrow.'

INCOMPLETE TRANSPOSITION AND IMPLEMENTATION OF EU LEGISLATION ON ENERGY AND CLIMATE

Transposition and particularly implementation of EU regulations on energy and environment is incomplete and lacks support mechanisms and sources of funding to ensure implementation. The most egregious examples are industrial emissions and air quality. Like all of the other coal-reliant Western Balkan countries, North Macedonia's coal plants are in massive breach of the EU's Large Combustion Plants Directive.

In 2019, Unit 3 at the Bitola coal power plant exceeded its emissions ceiling by no fewer than 13 times, and the country's total SO₂ emissions from coal power plants doubled compared to 2018, breaching the national ceiling by 6.8 times.

The reasons for this are unclear,²⁷ but the fact is that the Bitola coal power plant does not even have an integrated environmental permit as of early May 2021, showing a worrying lack of interest or ability by the authorities to address the problem.

As well as pollution from coal plants, North Macedonia's notoriously bad air quality is caused by a combination of other polluting industries, home heating by burning wood, coal, and waste, and by old vehicles.²⁸ The World Health Organization has estimated that around 4,000 premature deaths a year in North Macedonia may be due to air pollution,²⁹ and the economic cost in Skopje alone is thought to be between EUR 570 million and EUR 1.47 billion.³⁰ This situation is complex to resolve as it is partly linked with energy poverty in households, which needs a systematic approach that reaches also the most marginalised groups. But some measures can be taken quickly, for example imposing effective fines on industrial polluters, ensuring that no new sources of pollution are built, and undertaking spatial planning measures to ensure that air can properly circulate and green spaces are preserved and expanded. Despite declarations of political will to resolve the issues, there has been dangerously little progress, with fatal consequences.

On energy legislation, North Macedonia is one of the more advanced countries in the region with the adoption of the EU's Third Energy Package in its Energy Law. The electricity market liberalisation process in the country decreased prices for small commercial customers by about 32 per cent in 2019 as a result.

On the other hand, the conditions on the regional market have not yet been met for households to enter the open market.³¹ With the new Law on Energy from 2018 consumers can become active actors in the electricity market and start producing electricity for their own needs, and when they have a surplus of their production, to transfer that surplus to the electricity network. Unfortunately, this measure is still not used enough and only a very small number of producers have entered this category of participants in the electricity market. The biggest reason is the fact that only consumers, i.e. households, which enter the free electricity market can become electricity prosumers, and not those who continue to be supplied by EVN Home, which is the 'universal supplier' in North Macedonia. But the low regulated household electricity prices by EVN Home do not stimulate households to change supplier, and together with a lack of funds, this results in very little progress with the use of e.g. solar energy in households. Another reason is a lack of clear and well-explained steps for the public on how to enter the free electricity market and become prosumers.

'... Despite the favourable natural conditions, the use of solar energy in North Macedonia is at the lowest level in Europe... The main reasons for the low use of solar energy [are a] poorly structured scheme for subsidising thermal systems, relatively small budget for subsidising the installation of thermal solar systems, installation of thermal collectors without minimum quality and installation of thermal and photovoltaic systems by unlicensed installers.'



FALSE SOLUTIONS

North Macedonia's reputation as one of the more progressive countries in the region regarding energy has not always been the case. Only a few years ago, ELEM, as it was then called, was planning to rebuild the Oslomej plant to run on imported coal. This was very unlikely to be economically feasible, but was nevertheless pursued.

'Somehow we are still holding on to coal emotionally even though our resources are depleted and we need to think about new energy sources.'

While such ideas have now been left behind, North Macedonia has already for some time invested funds and effort into expanding its use of fossil gas, particularly in the district heating sector. National gasification plans are present in all of the country's planning documents. Worryingly, as mentioned above, it has also expanded its gas plans in the power sector as well, raising the prospect of stranded assets when carbon pricing is introduced.

'... Gasification is usually raised as a cure for all diseases. However, if we look at the part of realisation, we will see that objectively there is no real idea with the stakeholders (central and local authorities and others) about what is possible and what is in the domain of (unrealisable) theory.'

Too much faith is also still being put in additional hydropower projects. The Boskov Most and Lukovo Pole plants in the Mavrovo National Park diverted attention and resources for many years before finally being abandoned in the new energy strategy, but several of the plants still planned, such as those on the Vardar river, are also likely to be very damaging and are highly unlikely to be economically feasible due to the need to relocate existing road and rail infrastructure along the river.

Despite being relatively advanced with introducing a more updated renewables incentives scheme compared to its neighbours, North Macedonia has kept its expensive and damaging feed-in tariff scheme in place for small hydropower, thus affording it an unjustifiable advantage over other less damaging sources of energy.³²

Despite the efforts put into energy efficiency in the Energy Strategy, our respondents still deem it insufficient compared to the needs. This then further exacerbates the need for investment in the electricity and gas supply side and perpetuates projects which could otherwise be discarded.

'The Energy Strategy does not pay enough attention to the potential for improving energy efficiency. For example, when it comes to the industrial sector, only three measures to improve energy efficiency are listed. The whole range of measures in the field of compressed air and other pressurised gases, steam condensing systems, refrigeration systems, energy use in technological processes, etc. is simply neglected.'

'There is a lack of energy efficiency measures, especially in industry, which largely uses outdated and inefficient technologies, and on the other hand, it is one of the most intensive sectors in the country.'

STATE CAPTURE, LACK OF TRANSPARENCY, CORRUPTION AND LACK OF ACCOUNTABILITY OF DECISION MAKERS

Transparency in the climate and energy sector has significantly improved in the last three years. Nevertheless, there is still much room for improvement.

CSOs and relevant stakeholders were informed and consulted in the early stages of preparation of the Energy Strategy and were part of working groups preparing the draft NECP, Climate Action Law and Strategy and preparation of the third country climate report to the UNFCCC. The Programme for the Implementation of the Energy Strategy went through a round of wide consultations before receiving comments on the first draft of the document.

On the other hand, many CSO comments on the Energy Strategy remained unanswered and the reasons for later changing the Strategy to include the conversion of one of the Bitola units to gas and delay the coal phase-out date were never properly justified to the public, undermining the transparency of the process, and raising suspicions that the changes had been made to accommodate specific interests.

With changes like this going on behind the scenes, as well as successive governments' inability or unwillingness to make the Bitola coal plant comply with pollution control legislation, it is unclear whether the government is really in the driving seat. It ought to be clear: ESM is a state-owned company where the director and other key decision makers are directly nominated by the government, but at the moment it looks more like ESM is effectively making the decisions.

Corruption and lack of accountability of decision makers when it comes to the implementation of policy and regulation is still high and private business interests are often in collision with ambitious climate and energy policy.

For example, Kocho Angjushev was Deputy Prime Minister for Economic Affairs from June 2017 until early 2020. He is a major shareholder in FerolInvest – an umbrella company that owns at least 27 small hydropower plants, including Brajchinska reka 1 in Pelister National Park, which has damaged the habitat of the endemic and endangered Prespa Trout, and the planned cascade on the Zirovnichka River in Mavrovo National Park. In 2019 Bankwatch estimated that FerolInvest was receiving an estimated EUR 3.5 million from feed-in tariffs annually. At the same time, while in government, Angjushev and his cabinet were closely involved in the drafting and preparation of implementing legislation

regarding the utilisation of renewable energy sources and energy in general.³³

The president of the biggest opposition party, Hristijan Mickoski, also won at least five concessions for hydropower plants through his company Energoteh, as well as 33,000 square metres of state-owned land to build them. This happened during the period when he was a director at the state-owned electricity production company ELEM (now ESM) and an energy advisor to the then-Prime Minister Nikola Gruevski. The other notable owner of the same company is Dimitar Dimeski – a member of the cabinet of the then-Minister of Transport and Communications (the Ministry responsible for issuing construction permits).³⁴

Partisanship of public institutions is also a problem when it comes to increasing administrative capacity, as only certain experts are seen as politically acceptable appointees.

‘My answer to the main reason for inactivity and wrong steps of decision makers regarding the energy sector would be summarised in the following „Rule of two- (or three-) party unanimity for too long – 30 years!“’

‘The problem is complete partisanship of the society, even of the companies, supported by the ubiquitous corruption.’

WEAK COOPERATION AND COORDINATION BETWEEN INSTITUTIONS AND CENTRAL AND LOCAL GOVERNMENT

The NECP drafting process increased cooperation and coordination between institutions in the climate and energy sector, as it fostered a dialogue between sector leads and academia. However, there is still very weak cooperation and coordination between central government institutions, particularly when it comes to planning and financing the just transition process. The programme for just transition is mentioned in the draft NECP as well as the draft programme for implementation of the Energy Strategy, however there is no involvement in either of these processes by the Ministries of Labour or Education.

‘We are moving in the right direction. What is still missing at a lower level is the communication between institutions.’

‘To implement the ambitious energy transition large investments are needed and for this we need strong cooperation between institutions.’

There is a clear lack of cooperation and coordination between government and municipalities and local government measures are often not in line with national policies and plans. For example, municipal air quality plans and energy efficiency plans are not in line with the national strat-

egies, as they stipulate different sets of measures. Cooperation between local and central government is key to support a just transition and improve energy efficiency, but the Ministry of Local Self-Government has a very weak role in energy and climate policies and current local economic development plans do not support or help in the realisation of national policies and measures because the central government does not sufficiently supervise the process of development of these plans.

WHAT IS NEEDED TO OVERCOME THE BARRIERS TO A SUSTAINABLE ENERGY TRANSITION IN NORTH MACEDONIA? WHICH ACTORS CAN PLAY A ROLE IN MOVING FORWARD THE SUSTAINABLE ENERGY TRANSITION IN THE COUNTRY?

North Macedonia is clearly one of the region’s front-runners in energy transition, which it recently showed with its scaled-up ambition in both climate and energy sectors with a 51 per cent greenhouse gas emissions reduction target by 2030 compared to 1990 in its revised NDC. Yet although a plan for just transition is one of the measures in all the government’s climate and energy documents, in reality the process is lagging and could face difficulties if not planned and carried out in a timely and participatory manner.

The overall directions which need to be covered are outlined below, together with different steps necessary to achieve them and an outline of which actors could play a particular role. However, there are also a number of horizontal needs which need to be pursued in order to enable better decision-making on energy issues. All these need to be pursued as quickly as possible in order to advance North Macedonia’s energy transition.

HORIZONTAL NEEDS

- The political will to implement an energy transition seems to exist, but greater capacity and professionalism among those working in institutions responsible for the energy sector needs to be the highest priority, on both the national and local level. This can also be maximised by making the utmost use of expertise outside of the institutions as well and avoiding partisan employment practices.

‘Professionalism, strong institutions, fight against corruption’

‘Gradual departmentalisation of public enterprises, in which expertise should prevail, not party loyalty and many other steps.’

‘1. Involvement of professionals (experts, academic sector, engineers from the production facilities themselves in the planning and decision-making processes;’



2. Professional staff in managerial positions; 3. Aware political elites about the challenges of the energy transition.'

- Increased cooperation between national and local institutions is also crucial, to make sure policies and measures are aligned. This should not be a one-way process, but should also ensure that progressive measures adopted at the local level are also built into national policies, not only the other way round.
- Despite ESM's obvious importance as North Macedonia's largest electricity generator, it is imperative that it is the government and parliament that decide on energy and environmental policy and enforces the law, and that ESM is no longer left to do as it wants. The same goes for other, private electricity producers, such as small hydropower plant operators, who have for too long been allowed to build in sensitive areas and leave streams dry.
- Public support for energy transition can easily drop if it is perceived to benefit a small group of people at the expense of the wider public. Efforts to tackle corruption and nepotism need to ensure that such a scenario is avoided.
- Increased public dialogue would also help to build consensus around the energy transition process and ensure it stays on track and does not generate opposition from those affected by the changes such as people employed in the coal industry. In order for this to happen, people also need to see clear benefits, such as reduced air pollution and improved comfort levels.

'Basic education and awareness of the public.'

'In order for the energy transition to be realised, it needs to be widely accepted and supported by ministries, municipalities, public enterprises, households and the civil sector.'

The media can play a role here, as energy poverty, energy efficiency and renewable energy remain topics rarely mentioned by national media. These topics all offer opportunities for both local and national coverage on a plethora of issues and can be easily related to current news and trends in the country. Education is necessary to increase public pressure for policy change and implementation. However, as one of our respondents warned, developing journalists' expertise is also important, in order to ensure that the stories present issues in a meaningful way that addresses the issues at hand. This can be ensured by consulting with more experienced experts while developing stories.

'Investigative journalists should raise the level of their knowledge in the issues they would investigate, including energy issues. Manipulation of unconfirmed facts, half-truths, inaccuracies, etc. usually causes damage.'

MAIN DIRECTIONS FOR ENERGY TRANSITION

1. Urgently and transparently decide on the closure dates of the Oslomej and Bitola coal power plants, draw up participatory plans for a just transition in both locations and ensure that pollution control measures are applied in the meantime.

Oslomej coal power plant has been on the verge of closure for years but has been kept in reserve for now, and no official closure date has been announced. This is most likely in part because of the lack of a plan for Kichevo's just transition, which is now becoming urgent. The construction of 120 MW of solar photovoltaic plants on the former mining site is an excellent use of such a space, representing a physical energy transition, but is not a substitute for a bottom-up comprehensive regional development plan, which needs to be developed – in a participatory manner – very soon. Funding for the just transition process will be accessible for North Macedonia from the EBRD, IPA III and the Green Climate Fund as well as the Western Balkans just transition platform. The successful planning and selection of projects will slow down or secure a well-planned just transition process for Kichevo.

The situation in Bitola has been made more complicated by years of failure to address the plant's pollution, so now closure, pollution and mitigation of the social impacts of closure need to be urgently addressed all at once. Due to the time needed to install pollution control equipment, restrictions in operating hours might be the only feasible option in the years before closure. The contradictions mentioned above between the Energy Strategy and more recent statements by ESM about the Bitola plant's closing dates make it imperative for the government to clarify the situation and transparently explain what the plan is and why.

2. Make the most of households' energy efficiency and renewable energy potential by strongly supporting innovative measures.

Measures on the level of households are often avoided by governments because they are complex to prepare and take time to implement. But they are crucial in order to bring real benefits from energy transition for ordinary people and to offset some of the costs the transition brings. Energy efficiency retrofits can help to save energy used for space heating, solar thermal can save energy used for water heating, and photovoltaics can generate electricity close to where it is used, thus relieving the pressure on larger facilities. Coupled with heat pumps, it can also contribute to energy-efficient heating that can reduce air pollution.

The existing district heating system in Skopje needs to be modernised, with the priority being investments in network improvement and demand side measures – introducing consumption-based billing, putting individual meters in each apartment, etc. Plans should be made for the replacement of the gas-based system altogether, with fourth-generation district heating using lower temperatures and re-



newable sources. Pilot projects might help to identify how best to do this.³⁵

The national level authorities need to set up and coordinate the framework for making this happen. For example, the national level energy efficiency strategy needs to have some national level measures and budget and need to set criteria for incentive schemes so that the financing level is similar and the same technical standards are applied for equipment.

Every municipal authority also needs to develop an energy efficiency programme, to be approved by the Energy Agency, that will enable them to apply for grants and EU funds for energy efficiency projects especially for public buildings and infrastructure.

'Every year, the Ministry of Economy announces a call for subsidising installed thermal solar systems, where the only criterion is first-come, first-served, which is catastrophic. There should be criteria where the solar system has certain technical characteristics in order to be subsidised. Something that is a practice in other European countries.'

Specific attention needs to be paid to vulnerable consumers who may not ordinarily be able to access support schemes for various reasons. Their needs should be included in criteria to access support as well as in the way that incentive schemes are advertised and implemented.

'Large funds are needed for energy transition, so donor assistance is very important. In order for the citizens to accept renewable energy and the potential price increase, CSOs need to work with them, implement programmes for vulnerable consumers and pay more attention to them.'

Local authorities need to play a key role in supporting energy efficiency, sustainable heating and prosumer measures by adapting their plans according to the national ones as well as proposing national-level measures. They need to support the measures with additional local funds as well and to implement the schemes, if necessary pro-actively seeking international funds for more complex projects.

'In some municipalities, we have open calls for the installation of inverter air conditioners (replacement for wood stoves)... There are also subsidies for energy efficiency projects in households for some municipalities in Skopje but this should become available for other municipalities.'

Legislative changes are also needed. Simplification of the procedure for installing solar photovoltaics on households and connecting them to the distribution network is needed, including changes in the Law on Construction. For new buildings and the reconstruction of existing buildings (and roofs), it should be made mandatory to install photovoltaics on them.

It is also necessary for the government to make changes in the implementing legislation for the Energy Law and enable consumers who are supplied by the universal supplier to be able to become prosumers and build photovoltaic power plants on their roofs.

'North Macedonia has made progress in terms of energy transition, but it is still insufficient. The bylaws from the new energy law have not yet been fully harmonised and as a result households have still not begun to install photovoltaic systems up to 4 kW.'

3. Avoid false solutions

Decarbonisation by 2050 means phasing out all fossil fuels, not only coal. So North Macedonia's gasification path may have seemed like a good idea ten or fifteen years ago but today it is the wrong direction and needs an urgent rethink. As well as further increasing North Macedonia's already high import dependence, gas is a fossil fuel just like coal and investments made now will have to be replaced in a few years' time.

The European Commission and other international institutions such as the EBRD need to send clear messages on decarbonisation and stop encouraging the Western Balkan countries to invest in new gas infrastructure. In particular, the idea that renewable gas may replace the current levels of fossil gas is unfounded and irresponsible. It is likely to lead to overinvestment in gas infrastructure which will later either cause gas lock-in or become stranded assets.

The North Macedonia government also needs to critically review its plans for new hydropower plants. Several of the plants in the Energy Strategy, such as those in the Vardar Valley, and the Tenovo-Kozjak tunnel are projects which have been around for decades and appear highly unlikely to be economically feasible. Plans for more small hydropower plants need to be abandoned and new incentives stopped, as the ratio of environmental damage compared to energy generated is unacceptable.

Bioenergy too is subject to increasing concerns about its greenhouse gas emissions and impacts on forests.³⁶ Therefore it is recommended to closely follow developments at the EU level, particularly regarding forest biomass, and to plan only modest projects which are not likely to fall foul of tightened sustainability criteria in the coming years.





ENDNOTES

- 1 Energy and Water Services Regulatory Commission of the Republic of North Macedonia (ERC), Annual Report 2019, 2020; <https://erc.org.mk/odluki/Annual Report ERC 2019 - EN.pdf>.
- 2 Energy and Water Services Regulatory Commission of the Republic of North Macedonia (ERC), Annual Report 2019, 2020; <https://erc.org.mk/odluki/Annual Report ERC 2019 - EN.pdf>.
- 3 Government of North Macedonia, Strategy for Energy Development of the Republic of North Macedonia until 2040, English version, October 2019; [https://economy.gov.mk/Upload/Documents/Energy Development Strategy_FINAL DRAFT - For public consultations_ENG_29.10.2019\(3\).pdf](https://economy.gov.mk/Upload/Documents/Energy Development Strategy_FINAL DRAFT - For public consultations_ENG_29.10.2019(3).pdf).
- 4 Energy and Water Services Regulatory Commission of the Republic of North Macedonia (ERC), Annual Report 2019, 2020; <https://erc.org.mk/odluki/Annual Report ERC 2019 - EN.pdf>.
- 5 Energy Community Ministerial Council Decision 2012/04/MC-EnC, 2012, https://www.energy-community.org/dam/jcr:f2d4b3b8-de85-41b2-aa28-142854b65903/Decision_2012_04_MC_RE.pdf, and Decision 2018/02/MC-EnC amending Decision 2012/04/MC-EnC, 2018, https://www.energy-community.org/dam/jcr:971631b7-7996-4c90-a855-bfe3d3876ad4/Decision_2018_02_MC_RE_MA_112018.pdf.
- 6 Eurostat [nrg_ind_ren], last updated 2 April 2021; https://appsso.eu-rostat.ec.europa.eu/nui/show.do?dataset=nrg_ind_ren&lang=en.
- 7 North Macedonia Ministry of Economy, Draft National Energy and Climate Plan, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, July 2020; https://www.energy-community.org/dam/jcr:bbb63b32-6446-4df8-adc6-c90613daf309/Draft_NEC_P_NM_2020.pdf.
- 8 Government of North Macedonia, Strategy for Energy Development of the Republic of North Macedonia until 2040, English version, October 2019; [https://economy.gov.mk/Upload/Documents/Energy Development Strategy_FINAL DRAFT - For public consultations_ENG_29.10.2019\(3\).pdf](https://economy.gov.mk/Upload/Documents/Energy Development Strategy_FINAL DRAFT - For public consultations_ENG_29.10.2019(3).pdf).
- 9 Energy Community, Implementation Report for North Macedonia 2020, November 2020; https://energy-community.org/dam/jcr:6322be0c-0fd8-41d3-bde5-c5b1cb8b2dc4/EnC_IR2020_North_Macedonia.pdf.
- 10 North Macedonia Ministry of Economy, Draft National Energy and Climate Plan, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, July 2020; https://www.energy-community.org/dam/jcr:bbb63b32-6446-4df8-adc6-c90613daf309/Draft_NEC_P_NM_2020.pdf.
- 11 International Energy Agency, Total energy supply (TES) by GDP, North Macedonia, 1990–2018, IEA Data and Statistics, last accessed 1 April 2021; <https://www.iea.org/data-and-statistics?country=NORTHMACEDONIA&fuel=Energy%20transition%20indicators&indicator=TPESbyGDP>.
- 12 International Energy Agency, Share of total final consumption (TFC) by sector, North Macedonia, 1990–2018, IEA Data and Statistics, last accessed 1 April 2021; <https://www.iea.org/countries/north-macedonia>.
- 13 Government of North Macedonia, Strategy for Energy Development of the Republic of North Macedonia until 2040, English version, October 2019; [https://economy.gov.mk/Upload/Documents/Energy Development Strategy_FINAL DRAFT - For public consultations_ENG_29.10.2019\(3\).pdf](https://economy.gov.mk/Upload/Documents/Energy Development Strategy_FINAL DRAFT - For public consultations_ENG_29.10.2019(3).pdf).
- 14 Eurostat, Table [tran_hv_psmod], 2018 data; https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=tran_hv_psmod&lang=en.
- 15 Eurostat data is not available for North Macedonia.
- 16 Eurostat, Energy Dependence %, Table T2020_RD320, last updated 8 February 2021; https://ec.europa.eu/eurostat/databrowser/view/t2020_rd320/default/table?lang=en.
- 17 Energy Law, Official Gazette 96/2018 and 96/2019; <https://erc.org.mk/odluki/2ENERGY LAW MACEDONIA 2018 .pdf>.
- 18 Energy Efficiency law, Official Gazette 32/2020; <https://economy.gov.mk/Upload/Documents/Zakon za energetska efikasnost.pdf>.
- 19 It also introduces a number of regulatory measures, such as a building renovation strategy, energy efficiency obligation scheme, monitoring and verification of savings, comprehensive assessment of potential for efficient heating and cooling etc.
- 20 Government of North Macedonia, Strategy for Energy Development of the Republic of North Macedonia until 2040, English version, October 2019; [https://economy.gov.mk/Upload/Documents/Energy Development Strategy_FINAL DRAFT - For public consultations_ENG_29.10.2019\(3\).pdf](https://economy.gov.mk/Upload/Documents/Energy Development Strategy_FINAL DRAFT - For public consultations_ENG_29.10.2019(3).pdf).
- 21 Vesna Damcevska, REK Bitola will stop operating in 2040, *Sloboden Pечат*, 26 January 2021; <https://www.slobodenpecat.mk/en/rek-bitola-ke-prestane-da-raboti-vo-2040-godina/>.
- 22 Ministry of Environment and Physical Planning of North Macedonia, Enhanced Nationally Determined Contribution, Submission by the Republic of North Macedonia, April 2021; <https://www.green-growthknowledge.org/sites/default/files/downloads/policy-database/Macedonian enhanced NDC %28002%29.pdf>.
- 23 GFA Consulting Group GmbH / GFA SouthEast Europe LLC / Ramboll Group A/S, „Подготовка на долгорочна стратегија и Закон за климатска акција“—Република Северна Македонија, 3 February 2021; <https://www.moepp.gov.mk/wp-content/uploads/2021/03/2021-03-29-%D0%9C%D0%9A-Draft-Long-term-Strategy-on-Climate-Action-1-EG.pdf>.
- 24 No draft is publicly available as of late May 2021.
- 25 Energy Community Secretariat, Secretariat issues Recommendations on Macedonian draft National Energy and Climate Plan, the first one ever provided by an Energy Community Contracting Party, 24 November 2020; <https://www.energy-community.org/news/Energy-Community-News/2020/11/24.html>.
- 26 European Commission, North Macedonia Report 2020, 6 October 2020; https://ec.europa.eu/neighbourhood-enlargement/sites/default/files/north_macedonia_report_2020.pdf.
- 27 Ioana Ciuta, Pippa Gallop, and Davor Pehchevski, Comply or Close 2020 update, *CEE Bankwatch Network*, June 2020; https://bankwatch.org/wp-content/uploads/2020/06/COMPLY-OR-CLOSE-How-Western-Balkan-coal-plants-breach-air-pollution-laws-and-what-governments-must-do-about-it-2020-Update_final_eng.pdf.
- 28 Jessica Bateman, The young people fighting the worst smog in Europe, *BBC*, 2 July 2020; <https://www.bbc.com/future/article/20200701-skopje-north-macedonia-the-most-polluted-city-in-europe>.
- 29 WHO Regional Office for Europe, Economic cost of the health impact of air pollution in Europe: Clean air, health and wealth, *WHO Regional Office for Europe and OECD*, 2015; https://www.euro.who.int/_data/assets/pdf_file/0004/276772/Economic-cost-health-impact-air-pollution-en.pdf.
- 30 Gerardo Sanchez Martinez, Joseph V Spadaro, Dimitris Chapizanis, Vladimir Kendrovski, Mihail Kochubovski, Pierpaolo Mudu, Health Impacts and Economic Costs of Air Pollution in the Metropolitan Area of Skopje, *International Journal of Research on Public Health*, 15(4):626; <https://pubmed.ncbi.nlm.nih.gov/29596347/>.
- 31 Vladimir Spasić, Electricity market liberalization lowers prices by 32% in North Macedonia, *Balkan Green Energy News*, 1 August 2019; <https://balkangreenenergynews.com/electricity-market-liberalization-lowers-prices-by-32-in-north-macedonia/>.
- 32 CEE Bankwatch Network and Eko-Svest, North Macedonia: Complaint challenges unfair subsidy advantages for hydropower, *CEE Bankwatch Network*, 1 July 2019; https://bankwatch.org/press_release/north-macedonia-complaint-challenges-unfair-subsidy-advantages-for-hydropower.
- 33 CEE Bankwatch Network, Who Pays, Who Profits?, *CEE Bankwatch Network*, September 2019; <https://bankwatch.org/wp-content/uploads/2019/09/who-pays-who-profits.pdf>.
- 34 CEE Bankwatch Network, Who Pays, Who Profits?; <https://bankwatch.org/wp-content/uploads/2019/09/who-pays-who-profits.pdf>.
- 35 For example, a study has already been done by Güssing Energy Technologies for the Karposh district but would only include a new-build neighbourhood. Solutions need to be found for existing neighbourhoods as well; <https://www.coolheating.eu/images/downloads/concepts/Report-D4.4-technical-concept-Karposh.pdf>.
- 36 See for example: WWF, 500+ scientists tell EU to end tree burning for energy: „Regrowth takes time the world does not have to solve climate change“, they write, 11 February 2021; <https://www.wwf.eu/?uNewsID=2128466>.

ROMANIA





ENERGY SECTOR OVERVIEW

Romania's electricity mix is one of the most balanced in the European Union, with coal, hydropower, natural gas, nuclear energy and wind power having comparable shares of capacity and power generation. With the exception of wind and solar, almost all units in the systems are fairly old. Thus, although there is an official installed capacity of 19 GW,¹ the average power delivered to the system is around 7.5 GW, with many experts believing that demand above 11 GW would be impossible to cover relying only on national resources.

Although some coal power plants have closed since the 1990s, coal electricity generation has remained fairly constant at 25 to 30 per cent of yearly production. Regarding fossil gas, most power plants are built around big cities and use co-generation to provide district heating. New gas capacities were announced recently, including the 430 MW Iernut gas power plant.² It was supposed to go online in 2020, but due to pandemic-related delays, it is expected to be finished this year. Romania is also planning additional gas capacity, and still views gas as a transition fuel, despite numerous analyses that have found that no new fossil fuel facilities should be built.³

Renewable capacity experienced significant growth between 2010 and 2016, when a generous support scheme (no longer in place) encouraged the installation of new capacity. Renewable producers received green certificates which they could sell through market mechanisms to electricity providers. The number of certificates the providers were mandated by law to acquire varied depending on the yearly quota, which was established to meet the 2020 target. As producers received more certificates than they were able to sell, the number of certificates per MWh was reduced in 2013.⁴ Installations that come online after 2017 do not receive any green certificates.

While the scheme was in place, 3.1 GW of wind turbines and 1.3 GW of photovoltaic panels were installed.⁵ Most of

Romania's large hydropower capacity was built before 1990 but hydropower also saw an increase during this period, mainly comprising around 300 MW of small hydropower plants, which were encouraged by the support scheme.⁶

Many of these new small hydropower plants were built illegally, in Natura 2000 protected areas, which prompted the European Commission to start an infringement procedure against Romania in 2015.⁷ Since 2016, no significant new renewable capacity has been installed, as new units were no longer awarded green certificates.

Romania reached its renewable energy target for 2020 – a 24 per cent share of RES in primary energy consumption – in 2014.⁸ This happened with very little effort, as the target was very unambitious – the country only needed an increase of less than 1.5 per cent from its 2010 level. Most of this amount was already covered by the large hydropower plants, already operational for over 20 years, and by the biomass used for heating in rural homes.

Romania's nuclear capacity was built in the 1990s and early 2000s. The Cernavodă nuclear power plant generates 1.3 GW of power in two units. Future plans include building two new 700 MW units and retrofitting Unit 1 with US and French support.⁹ The Romanian National Energy and Climate Plan (NECP) plans for the country to have 1.9 GW of installed nuclear capacity in 2030, with the new Cernavodă Unit 3 to be commissioned in that year.

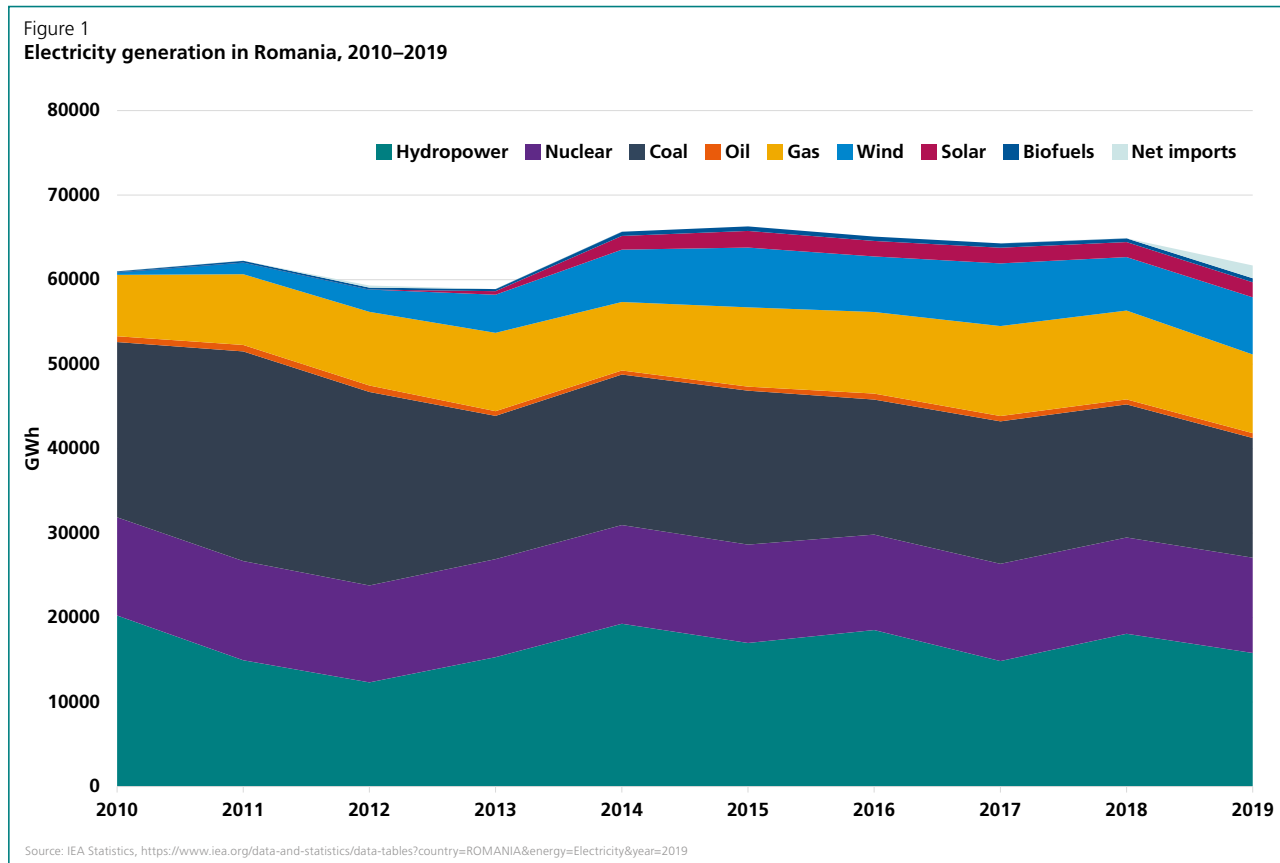
In 2019, Romania produced 56,012 GWh, and total consumption exceeded 57,300 GWh. Hydropower, coal, nuclear and gas were the largest contributors to total generated energy.

Electricity demand has not varied significantly in Romania over the last decade. A huge decline took place in the 1990s, as energy-intensive industries collapsed and the country fell into a deep recession. Demand increased as economic growth was constant throughout the 2000s, but

Table 1
Net installed capacity of electricity generation facilities in Romania, 2019

Energy source	Installed capacity, 2019, MW	Per cent
Coal (lignite and hard coal)	4,128	21.5
Gas	3,045	15.9
Hydropower	6,318	32.9
Wind	2,977	15.5
Solar	1,298	6.8
Biomass	122	0.6
Nuclear	1,300	6.8

Source: Transelectrica, the Transmission and System Operator; <https://www.transelectrica.ro/documents/10179/45096/7/productie12ab.rar/31e007bf-7de2-40d1-8a32-c223de93a970>



it never reached its previous levels, given the new profile of the economy: less industry-intensive and more service-focused. The 2009 recession was felt in the country only in the early 2010s, again putting a dent in electricity demand, which rose again by the end of the decade. Romania was a net electricity exporter for every year from 2000 to 2018 (with the exception of 2012). However, starting in 2019, the country became a net importer.¹⁰ This trend continued in 2020.

Romania became a net electricity importer shortly after its day-ahead (spot) electricity market was interconnected with the markets of Hungary, Slovakia and Austria.¹¹ Long-term contracts between conventional producers and suppliers were the norm prior to this, but the possibility of larger profits on the day-ahead market made the operators of large power plants change their strategy. As a result, Romanian suppliers had to buy electricity on the day-ahead market instead, which led to higher prices and therefore an increase in imports.¹²

Although Oltenia Energy Complex confirmed that it chose to produce less electricity to reduce losses and sell only when prices were high,¹³ Hidroelectrica denied adopting a similar strategy. However, the Competition Council has been investigating Hidroelectrica since 2018 due to allegations that it has abused its dominant position in the market.¹⁴

The fuels used for both individual and district heating are natural gas, wood, fuel oil and coal. An insignificant proportion of heat is produced with renewable energy other than firewood. Forty-six per cent of energy for heating in

Romania is from biomass – firewood – with the percentage much higher in rural areas. This makes the need to find sustainable solutions in this sector urgent. Thirty-five per cent of Romania's heat comes from gas, and 13.6 per cent from coal and gas-fired district heating, with the remainder from other sources.¹⁵ Preserving forests is important for climate protection, and illegal logging is a serious issue in Romania,¹⁶ yet there is no official data on whether this wood is used for heating, used in the robust domestic furniture sector, or is exported.

In the transport sector, the fuels used are oil (diesel and gasoline), gas, biofuels (biodiesel), bioethanol and electricity, out of which 10 per cent is renewable electricity.¹⁷ Official data about the fuel mix in transport is not publicly available, but it can be estimated from the data included in the Romanian NECP that in 2017, 94.4 per cent of all transport used fossil fuels.

Regarding energy resources, Romania extracts all of the most common types of fossil fuels from within its territory: coal (lignite and hard coal), gas, and oil.

According to Romania's national recovery and resilience plan, fossil fuels extracted in Romania cover 37 per cent of oil and 80 per cent of gas consumption.¹⁸ There are 400 crude oil (229 million tonnes) and natural gas (726 million tonnes) deposits which are currently being exploited.¹⁹

Regarding coal, lignite resources in Romania are estimated at 690 million tonnes, of which 290 million tonnes have already been licensed for mining. There are also 232 million



tonnes of hard coal resources, of which 83 million have been licensed.²⁰ Only a small fraction of these resources can be exploited economically – in the case of hard coal, almost none, as the high extraction costs led to an electricity production cost of over 100 EUR/MWh. There are 10 active open cast lignite mines and four hard coal underground mines.

Romania has the third lowest rate of dependency on energy imports in the EU, with 30 per cent in 2019.²¹ According to the NECP, the goal is to reduce this rate to 17.8 per cent in 2030. Most of the imported fuel is oil and oil products (81 per cent), followed by gas (7 per cent) and solid fuels (7 per cent).

ROMANIA'S ENERGY STRATEGY AND PLANS

All EU Member States agreed on the target of climate neutrality by 2050 in December 2019.²² Romania's draft National Energy Strategy and recovery plan mention this climate neutrality target, but do not link it to specific measures or targets. The Romanian Minister of the Environment also joined the group of states which support financing the COVID-19 recovery through the European Green Deal.²³ Thus, Romania has a stated commitment to carbon neutrality.

Romania's main plans for the next 10 years in the energy field are stated in the NECP, which was assessed by the European Commission in October 2020. The adoption of the new National Energy Strategy has been much delayed; however, the draft Strategy was updated at the end of 2020 so that it is now in line with the targets and plans proposed in the NECP.

Romania is committed to increasing its renewables target on paper, but its ambitions are not proportional to its potential, and concrete measures are lacking. The goal for 2030 is 30.7 per cent of renewables in final energy consumption, far below the 34 per cent recommended by the European Commission. Considering that in 2016 the share of renewable energy reached 25 per cent and has not increased since, an increase of only 5.7 per cent in a 10-year period is very low.

Through energy efficiency measures, a decrease of 40.4 per cent in final energy consumption compared to 2007 is expected by 2030. The Commission considers this target unambitious as well,²⁴ as it foresees an increase in energy consumption compared to today as Romania's economy grows, despite the fact that its energy intensity is almost double the EU average.²⁵ The main triggers for additional consumption are expected to be the industrial (14.59 per cent) and tertiary (24.66 per cent) sectors and transport (15.67 per cent).²⁶ However, experts believe that this increase is exaggerated.

To achieve the planned energy savings in the residential sector, the NECP refers to the Long-Term Renovation Strategy project. In principle, such actions are welcome, but so

far, the works commissioned for energy efficiency in the residential sector have often been of doubtful quality, and frequently after completion the authorities refused to issue an energy performance certificate.²⁷

The NECP shows almost 2 GW of installed coal capacity in 2030²⁸ and does not set a coal phase-out date. However, no new coal plants are expected to be built: the last planned project, Rovinari 600, was removed from the final versions of the NECP and Energy Strategy. The biggest coal operator in Romania, Oltenia Energy Complex, established a 'decarbonisation plan' which is awaiting approval from the European Commission as part of an ongoing state aid procedure.

Despite its name, the plan provisions a mostly coal-to-gas transition, replacing 4 of the 12 coal units with gas capacities, closing one and outsourcing another, while the rest continue running on coal. The same model is being followed at Hunedoara Energy Complex, the hard coal operator in Romania, which will outsource one of its two coal power plants which subsequently will be replaced by gas, while the other one will continue running on coal.

The NECP foresees an overall decrease in installed gas generation capacity from 3,344 MW in 2020 to 2,958 MW by 2030, but new capacity is planned because some old power plants will be decommissioned. It is not clear from the document which units will be retired and when, nor what the new planned units are and when they will come online.

However, the main gas threat lies in the new legislation proposed by the government to extend the gas pipeline network and to connect all household customers free of charge²⁹ and the intention to exploit the Black Sea offshore gas reserves,³⁰ which will lead to increased consumption, infrastructure lock-in and greenhouse gas emissions.

In its NECP, Romania committed to reduce emissions in the sectors that are part of the EU ETS trading scheme by 43.9 per cent by 2030, but by only 2 per cent for those outside the scheme. The NECP mentions some specific measures to help reach this objective, such as implementing best available techniques for industry, supporting low-carbon technologies or applying more restrictive conditions for fossil fuel companies, but gives no timeline, calculation of investments or individual impact. It is therefore not clear how, or if, each of them will contribute to reaching the objective.

The NECP and draft Energy Strategy state that Romania intends to be 'a net exporter of electricity' but 'at a much lower level than before'.³¹ Regarding other fuels such as crude oil, imports are expected to remain high in order to cover demand. The Strategy expects Romania to become a 'regional supplier of energy security', mainly if the country 'capitalises on the hydrocarbons and offshore potential of renewable sources in the Black Sea'.³²

Declarations made by state actors point in the same direction. The Minister of Energy, Virgil Popescu, recently stated that 'Romania will be an energy hub, and obviously this will

be integrated into the NECP. That's why we will build [nuclear] reactors 3 and 4, to have more energy; that's why we try to unblock investments in the Black Sea, to have more gas to consume in the country and to produce electricity'.³³

The NECP estimates that renewable sources will account for 33 per cent of energy used for heating and cooling by 2030, including biomass sources, compared to 25.2 per cent in 2020. It foresees heat pumps and solar thermal panels on roofs, but at a very low level compared to biomass.³⁴

However, no concrete measures are identified besides the continuation of the *Casa Verde Plus* energy efficiency programme, which does not address energy sources but rather supports measures such as insulation or lighting. Another programme identified in the Energy Strategy for this sector is the 'National Program for connecting the population and non-household consumers to the smart natural gas distribution network' and co-generation district heating – neither of which are likely to involve renewable energy.

In the transport sector, the renewables target to be reached by 2030 is 14.2 per cent, up from 6.56 per cent in 2017. This will be achieved through the installation of 600,000 charging points for an additional 700,000 private electric vehicles which will be put into circulation.³⁵ The RABLA Plus programme, which grants large subsidies for electric and hybrid vehicles, will encourage increased usage of electric vehicles.

On the other hand, the NECP proposes measures for liquefied natural gas (LNG) and compressed natural gas (CNG) infrastructure for vehicles and shipping, as well as increasing the registration fee for old vehicles and reducing taxes for electric cars.³⁶ Although the latter is a good measure, encouraging new LNG and CNG vehicles is not aligned with a green transition. Moreover, the European Commission's assessment from October 2020 notes that *Romania has not set a specific target for emission reductions in the transport sector as part of the non-ETS sector target.*

Other measures in this area include modernising train infrastructure and increasing the accessibility of metro stations in the capital. An upgrade to the country's railway infrastructure is urgently needed, especially as train transport is a strategic point in the Green Deal. One interview respondent told us that 'the country has one of the largest railway networks in the EU, but it also has the lowest average speed – 40–50 km/h, [and] a large part of the network is not electrified'.

WHY IS ROMANIA'S ENERGY TRANSITION NOT ADVANCING MORE QUICKLY?

FALSE SOLUTIONS

The biggest threat to the energy transition in Romania is gas. All state actors support gas as a transition fuel and encourage projects in this area, such as the Bulgaria-Roma-

nia-Hungary-Austria (BRUA) pipeline, new gas extraction in the Black Sea, mains gas connection for the entire population, district heating based on gas, and LNG and CNG terminals for transport.

In most of his statements, the Minister of Energy has stated his support for gas and nuclear energy,³⁷ and Romania together with seven other EU Member States asked the European Commission to allow gas projects to be funded by the Recovery and Resilience Facility and Just Transition Fund³⁸ and voted likewise in the European Parliament.

Although renewable hydrogen is mentioned in Romania's NECP as a subject for future research, it is not specified how the hydrogen that will be used in the industrial sector will be produced. Romania therefore does not set any exclusions in its NECP for hydrogen production, and it is likely that this will also end up reinforcing the gas industry.

'I am more worried about fossil gas, unfortunately in Romania there is a lot of political consensus on Black Sea gas, even the president recently declared that he supports it.'

'Expanding gas infrastructure and production, viewing gas as a transition fuel, carbon storage [and] the RABLA programme... all slow down the transition. Likewise, for nuclear, which is being discussed again during this election period, we have these American promises of USD 8 billion for two new reactors at Cernavodă, even though we know that nuclear is not necessarily a solution; we know the execution deadlines are long and delayed, the investments are enormous, the impact on the environment is big.'

'Decision makers in Romania promote gas as a bridging solution, but we know this is an investment [that will last] for several decades. It is clearly a false solution.'

'The recent state aid that coal received deepens the investment in this fuel, but in the future... coal [will exit the market] and a larger proportion of renewables will remain. Unfortunately, CCGT [combined cycle gas turbines] for balancing the power system is needed for the next few years. However, in the medium and long-term this kind of investment (including Romgaz's new one) will become a stranded asset.'

Moreover, Romania's plans for heating rely on gas. Official documents and plans focus on cogeneration in big cities, and no plans for decentralised systems or prosumers have been established. Since more than 40 per cent of Romania's heat comes from wood, as mentioned above, the government's plans to connect households using wood to the gas network would only create a new fossil-fuel lock-in, at great expense. The category of consumers using firewood is also the most vulnerable to energy poverty;³⁹ thus, the state should support energy efficiency measures and the modernisation of living standards for these households.



'People in rural areas in Romania depend on wood for heating. The state's vision is to replace wood with natural gas, which is a fossil fuel. This shows me that we have a paradoxical vision, having a target to reduce fossil fuels but investing in natural gas at the same time.'

'We do not have a plan for transition in the heating sector. In cities we mostly rely on centralised systems, and I understand the efficiency of such systems, but I am discouraged by the enormous effort that must be made for the rehabilitation of very old systems such as Termoenergetica in Bucharest. Here I would like to see a competition of solutions for an efficient and clean production of the thermal agent.'

'The heating sector is the Achilles' heel for Romania. There are no plans, we go on with business as usual, we are behind on heat transmission infrastructure, very old pipelines.'

'For heating the great promise that emerges is gas for free, without installation costs, which is quite unrealistic. It is hard to believe that they will be able to expand the network without real costs reflected on the entire consumer network.'

LACK OF VISION AND OUTDATED CONCEPT OF THE ENERGY SYSTEM

A major reason why Romania does not yet have a clear trajectory for energy transition in 2030 and carbon neutrality in 2050 is the lack of vision of the Romanian government and its outdated view of the energy sector.

'Carbon neutrality is out of the question; I don't even see how we could reach this goal, because our actions do not point in this direction. It is a desire at the EU level. Maybe we will capitalise on the opportunities given in this context, but today it is hard to say that we have a planned commitment for neutrality.'

'We need a government with a long-term vision, because the energy transition – and especially just transition – is a process that will take a lot of time and effort. We do not expect to have significant results in a four-year mandate.'

'Declaratively we made this commitment [2050 carbon neutrality], we even praise the fact that emissions are falling, but in fact many industrial utilities have closed. The problem will rise when the '90s baseline period will no longer matter, when outdated industry will close and we will still have emissions. Then we will really have to upgrade the system, increase energy efficiency, and install massive renewables capacities. This will be the critical point where we will no longer be able to take advantage of historical changes. Right now, I am not very convinced that we are aiming for 2050 with net zero emissions.'

Although Romania registered a significant boom in renewable energy during the past decade, the country's energy policy in the last 30 years and for the foreseeable future has been decidedly unimaginative. Support for investments in clean energy through green certificates was not sustainable, and was set up in order to meet climate targets.

Experts believe that decision makers lack trust in renewable energy's potential to ensure energy security. The authorities have rarely, if ever, made any statements directly supporting renewable energy. Some officials from the ministry declared that Romania cannot give up coal by 2030 due to security of supply reasons.⁴⁰ The Energy Minister stated in an interview that '30 years from now, there would be no more coal mining activity in Romania at all',⁴¹ showing a lack of understanding on how fast coal is declining across Europe.

'The idea that coal is Romania's backbone is fair, to a certain extent – so far it has contributed to the development of the economy [and] industry, the fact that many things are directly and indirectly related to employment in the coal industry. The false problem is that we can't change that, [that] we don't have solutions – we can't figure out if the solutions are viable if nothing is done in this direction.'

'They say that to ensure energy security we must stay with coal, but energy efficiency, decentralisation, diversification of energy sources, renewables coupled with back-ups (storage) will offer us energy independence. We have to look further at demand response, energy management, [the Internet of things] (IoT) – in 20 years these things will be the norm, but in order to reach them we have to start with something, scale the safe solutions and start pilot programmes for the newest ones.'

'The people responsible for the Energy Strategy are mocking the capacity of renewables to support the energy system. They promote false stereotypes about renewables and certainly do not have enough information about technological developments in recent years. They claim that the pillars of the energy system are coal, nuclear energy and big hydro projects. I recently looked on the Transelectrica website (the Transmission and System Operator), and the coal generation was 1,000 MW and the same amount was coming from wind energy, but we have a much higher coal capacity in the system, so in reality we do not need coal that much.'

'There are still people in decision-making who see in renewable energy the problem that it creates inflections, does not produce continuously, so they think about the stability of the system and do not see the opportunity. A solution would be to encourage the transmission operator, Transelectrica, to connect as much renewable electricity to the grid as possible.'

The 2018 version of the National Energy Strategy – a document updated by every new government since 2012, but

never adopted through law – exemplifies this lack of vision. The document presented four key projects:

- finishing units 3 and 4 of the Cernavodă nuclear power plant, started in 1984 and 1985;
- Tarnița pumped hydropower storage, another project started in 1985, which would destroy a mountain;
- the Turnu Măgurele-Nicopole hydropower project on the Danube, initiated in 1978 by the leaders of Romania and Bulgaria; and
- the new coal unit at Rovinari, which was finally confirmed to be cancelled in 2020.

While the current version of the National Energy Strategy no longer includes these projects, it is telling that they were only eliminated in 2020, and that they have still not been replaced with modern ideas for the energy transition. Instead, the Strategy lists nuclear units and a long series of gas projects, together with vague and general measures to support renewables.

In addition to the government's support for fossil fuels and other outdated projects, official documents set a growing trajectory for energy demand in the following years which does not decouple economic growth from energy use. However, the data presented in the previous section shows that in the last 10 years, Romania reduced its energy intensity and there is still space for improvements compared to other EU countries.

'The renewables target is very low. It should be at least 34 per cent. We think that even 40 per cent is possible. Romania is not able to use the [renewable] resources, and fossils block their development. Regarding efficiency, demand was estimated much higher as a bargaining margin, because in the end, the consumption will be lower and in this way renewables will have a higher share... If we look at how Romania is today – quite a small [amount of] industry, a declining population and no forecasts for massive electrification (for transport or heating) – we have no economic reasons for such a vision.'

'On energy efficiency, some progress has been made in industry. Companies understand that it is in their best interest. In the area of household consumption the situation is very bad because we failed to create a reasonable regulatory framework. The authorities have created programmes for thermal insulation in urban areas that are insufficient. Instruments such as ESCO do not actually have a regulatory basis that works, except for street lighting projects in cities.'

'It was an artifice of the government to project exaggerated demand figures to make room for any actor who wants to maintain or invest in new production capacity. We are dealing with a vision that is too optimistic..., the documents are treated politically, and they want to show that the economy will boom and that energy demand will increase. The realistic projections we have seen show a small increase in demand, close to stagna-

tion – although we have projections of economic growth, ambitions to increase energy efficiency and demographic decline translate into an almost stagnant level of demand.'

LACK OF ENFORCEMENT OF EU POLLUTION CONTROL AND STATE AID RULES

A significant threat to the transition is coal, which cannot legally receive state aid, unless it receives the European Commission's approval. However, Romania has found ways to support coal with public money. In 2020, Oltenia Energy Complex, the country's biggest coal operator and public company, received EUR 251 million in state aid to pay for its CO₂ allowances⁴². It also still receives state aid for expropriation for mine expansion⁴³. Over the next seven years, the company is expected to receive another EUR 1.3 billion in order to implement a decarbonisation plan⁴⁴.

The European Commission opened two infringement cases against Romania for breaching the Industrial Emissions Directive multiple years in a row. Two coal power plants failed to comply with pollution limits⁴⁵.

'Regarding air quality, the Commission's infringement [proceedings] started in 2009, and only in 2019, after 10 years, Romania received a sentence on this matter from the European Court of Justice. But these procedures remain symbolic⁴⁶, and do not have direct consequences for applying the law. In addition, state aid is given mostly to fossil fuels companies.'

'[A]n example that comes to mind: the aid received by the Oltenia Energy Complex less than a year ago, which turned into restructuring aid. The perception is that alternative ways are sought for these companies to be supported and then arguments are sought in regulations and directives, not the other way around, because there is an urgency in saving them. I am afraid that such approaches will be found in the future before the pay date for ETS allowances.'

'There are laws, only they are not enforced. Even if we have a pollution standard, it is not respected. State aid for coal is still given in a disguised manner, such as capacity mechanisms.'

'Lack of capacity of the authorities to enforce the rules. In the energy sector, the current government has been very detached from the emergencies we face.'

STATE CAPTURE BY PUBLICLY-OWNED UTILITIES, LACK OF TRANSPARENCY AND RULE OF LAW

The lack of legal enforcement explained above is connected to a lack of transparency and state capture, which experts say are the biggest problems of Romania's state-



owned energy companies. Bankwatch analyses have highlighted corruption and state capture cases in multiple public companies or projects. In the case of Oltenia Energy Complex, inflated bills were paid to friendly law firms and expensive acquisitions were made for the benefit of the company's management or other local powerful actors.⁴⁷

Fossil gas interests have not been demonstrated to receive direct material benefits, but have received legislative favours: the government sacrificed environmental law by offering derogations from legislation and institutional policies to facilitate private interests, and the legislation on public consultation and participation in decision-making has frequently and flagrantly been ignored.⁴⁸

'We have faced and continue to face a lack of transparency – documents are in public debate for short periods of time, [there are] unclear terms on what [will be] changed in relation to existing laws, and drafts lack many elements compared to the final document... Generally, public consultation is not done by the book, but is a step that the authorities feel forced to take.'

'Regarding state capture, the form in which the balancing market⁴⁹ is built is a problem. This market was monopolised for years by CE Oltenia and Hidroelectrica (both state companies) due to regulations. So, over 80 per cent of the most expensive market in Romania [the balancing energy market] is represented by state-owned companies. We can't talk about competition.'

'We still have state companies that have a fairly high share in the system, companies with problems that do not comply with pollution standards [and] receive state aid. I see it is a conflict of interest – [the state is] both a legislator and a polluter at the same time.'

'Lack of transparency, yes – line ministries do not communicate with the market, do not provide documents in time to allow reactions, public consultations are mimicked. There are a number of national projects that have not been carried out because the stakeholders directly involved have not been taken into account.'

'I would like to add another factor – vested interests. The energy system is deeply fragmented by sectoral and corporate interests that find it convenient to extend the current status quo, to induce a state of mistrust, to use any means, including administrative incapacity, to pursue their interests. For example, I do not understand why it is so difficult for Transelectrica, the national electricity transmission operator, to ensure access to the grid for renewable energy.'

LACK OF POLITICAL COURAGE TO CLOSE COAL MINES AND TACKLE JUST TRANSITION

Voters' perceptions were cited by our interviewees as a reason for political support for continued fossil fuel use.

'The concept that coal is a solution and without it we can't produce [enough electricity] is an outdated concept. It comes from an ambition to not challenge the status quo, because such transformations also lead to a shift in power [and] have electoral implications. They have a reluctance to act because they will lose by accelerating the energy transition.'

'Renewables are seen as a threat, which means that the potential is understood, but due to the need for votes in some regions it is quite complicated for decision makers to promote renewables that do not have many jobs behind them yet and do not affect a significant pool of voters.'

The political will for just transition was non-existent until two years ago, but it began emerging as decision makers started to realise that EU funding would be linked to the ambition to tackle climate change. In 2020, the Romanian authorities started to understand the need to tackle the decline of coal mining and just transition. This is because they realised that the 2021–2027 Multiannual Financial Framework and the Recovery and Resilience Mechanism, from which Romania can access EUR 80 billion, are strongly linked to the European Green Deal.

In order to have its state aid request approved by the European Commission, Oltenia Energy Complex agreed to prepare a decarbonisation plan.⁵⁰ However, a coal phase-out date – not to mention one for gas – is not established and the existing coal capacities are expected to operate beyond 2030.

The just transition process has already started in Jiu Valley, the hard coal region in Romania. A Strategy for the coal transition in the Jiu Valley⁵¹ was initiated by the Ministry of European Funds in 2019, in order to find the most suitable solutions for the region. Public consultations took place throughout 2020 and are set to continue in 2021.

In Romania, there are six regions (out of which two are coal mining regions) eligible for the Just Transition Fund and the Ministry created a dedicated operational programme for just transition⁵². To access financing, each region needs to prepare a territorial just transition plan. Experts say that the main problem is that coal miners are not well informed about what the just transition is and how it will change their workplace and are sceptical about what will be achieved through this initiative.

'As a concept, the just transition comes from the trade unions. But in Romania they are not really involved in the just transition. On the contrary, the miners perceive them as working together with the coal company's management against the miners' interest. This is part of the reason why the miners are not informed and supported in this process. They witness the end of coal and the end of their livelihood without any alternative.'

'People do not understand what the alternatives are because they are not well defined by the state and private'



[industry], nothing concrete has happened yet, they do not know what they will receive in return. Politicians are also in a strange situation where they do not know what to do: unions are strong enough voices in certain regions and it is clear that they can influence elections.'

POLITICAL INSTABILITY

The issues above are, according to our interviewees, exacerbated by Romania's political instability and lack of commitment from political parties. In Romania the average time spent as a minister is 400 days, whereas in the EU as a whole it is 2,300 days.⁵³ The reasons why ministers change so often are multiple, but they are usually due to internal conflicts within their political party that are reflected in the public space, as well as appointments of current ministers to other public positions. Numerous times, politicians – prime ministers, ministers or mayors – have made false promises just to win elections, but did not live up to them. Politics in Romania are often based on populism, led by emotions and instincts, not objective data.

'The fact that politicians are always campaigning and postponing some things they should actually do [and] the lack of a solid and lasting majority in Parliament have contributed over time to delays in regulation, decision [and] strategy.'

'At the central level, the Minister of Energy could be a champion [of the transition] – the problem here is that ministers change often, you can't do anything in one year, the decision is political in the end.'

'The political instability affects the transition because a political commitment is needed, and so far no one has displayed it.'

'When the mayors change in the regions where the transition will be more difficult, the discussions need to start over; at the central level when the government changes, the strategic documents are modified – from this point of view, we had a good change, as gigantic fossil fuels projects were excluded from the National Energy Strategy – and for someone who wants to take these documents as references these changes are not a good sign.'

LACK OF POLITICAL WILL TO COOPERATE AND REALISE REGIONAL SYNERGIES

Our respondents stated that the European Commission has a role in Romania's cooperation with regional actors. Some say regional cooperation began to emerge due to Projects of Common Interest⁵⁴ like the BRUA pipeline, or due to other interconnections or just transition.

A recurring theme on the agenda of energy ministers, which even made it to the National Energy Strategy, is the creation of an energy hub in Romania, based on the fact that the

country will increase its exports of electricity and fossil gas. This objective, however, was never backed by a study proving that the local prices will be competitive enough or showing the electricity needs in the region. Furthermore, at least through political declarations, neighbouring countries also announced plans to become energy hubs, primarily in order to justify new capacities on fossil gas or nuclear energy.

'There are no synergies. If we build nuclear, Bulgaria builds nuclear, the Hungarians build nuclear, it is clear that we cannot talk about synergies, optimisation or efficiency. There is no focus on interconnections to maximise the surplus, it is clear that we are not talking about regional collaboration. But I think things might be forced to change by the NECPs and the fact that the Commission will have to correlate all inputs from countries and to establish to a certain extent what the limits are and what each country should do. Another example discussed is the Black Sea gas, [which] each country is planning separately.'

'I think the will to cooperate is just beginning to emerge, at least in terms of just transition – we followed some best practices from other countries. If [this cooperation] didn't exist at all, we would have been five to ten years behind.'

'Here we can talk about interconnections, and we also have a target for it. The solution would be to export excess energy produced by renewables, but lately, Romania imports more. Our regional plans are linked to gas and decision makers hope that with the BRUA corridor we will become the gas hub of Europe.'

REAL TECHNICAL DIFFICULTIES

There are some technical difficulties that might slow down the energy transition in Romania, which could be easily fixed with a coherent investment strategy. The main issues are found in the transmission network, which is not able to connect more (renewable) power to the grid. Transelectrica's analysis of the network showed that out of the 54 high voltage power lines, 52 are in an unacceptable state. The closure of the 400 kV national ring (internal lines) is also a priority for the company and is also a PCI mentioned in the NECP⁵⁵.

'The adequacy issue – in 2025 we will no longer be entitled to say that we have a capacity deficit and that we accept anything in the name of security, that we do not have enough cross-border connections. The studies we have worked on are not necessarily accepted and understood, the decision-making process is not based enough on objective analysis, which perpetuates myths and feelings that are not related to the collective good.'

'But whether we like it or not, renewable technologies will enter the market. They enjoy favourable policies at the European level. This can happen in a rational environment or they will have to take market shares from other wasted investments that will not be able to recover their capital and will become stranded assets.'



'Congestion at the network level, having a lot of renewable energy in the Dobrogea area, puts pressure on the network and makes it difficult to evacuate energy to the rest of the country.⁵⁶ It's a real problem, but there are also solutions.'

'A technical difficulty would be the network of high voltage lines of 400 KV, which is not closed and does not allow grid connection for renewables, especially in the western part of the country. This is the main reason why we need the Mintia power plant, which is the only large producer in the west. We have a lot of renewables in Dobrogea, and they want to add here two nuclear reactors.'

'We have to decide if this [grid connection] is a real problem. I haven't seen any serious study. Regarding the integration of prosumers, at some point one of the drafts of the national energy strategy allowed only 750 MW on the grid. The reality is that no one knows how many prosumers can be integrated in the system. A study is needed, but until then, the opposition is unjustified.'

WHAT IS NEEDED TO OVERCOME THE BARRIERS TO A SUSTAINABLE ENERGY TRANSITION IN ROMANIA? WHICH ACTORS CAN PLAY A ROLE IN MOVING FORWARD THE SUSTAINABLE ENERGY TRANSITION IN THE COUNTRY?

Romania's radical transformation after the Second World War from a rural, illiterate country to an industrialised economy at the end of the century was only possible through the use of its rich domestic resources, at the centre of which were fossil fuels: its large reserves of petroleum and fossil gas and decent sources of cheap coal for electricity production. But the country's accelerated economic decline in the 1990s showed that reliance on fossil fuels could no longer ensure a good quality of life for its 20 million citizens. Therefore, a new transformation was required.

This transformation took place slowly over the following decades, as the services sector managed to absorb some of the previously industrial workforce. However, the transition cannot be considered a success, as over 3 million people emigrated out of the country in search of better jobs. As the country currently needs to make a new push for re-development, based on the above analysis and the responses provided by our interviewed experts, we have identified three main directions that need to be developed in order to accelerate energy transition:

1. Avoid a fossil fuel lock-in.

Romania should be wary of falling into the trap of a fossil fuel lock-in. The simplest way to cover its energy needs and also meet short-term climate targets might seem to be by replacing coal units with fossil gas. Yet the investments for this switch, if made, will never be recovered, as fossil gas

too will need to be phased out in order to reach 2050 climate neutrality.

The high costs for building new gas units and for expanding gas infrastructure for individual home heating, which will need to be replaced in a few years, also mean that the country will have even fewer resources to put in place actual solutions for the energy system and to create much needed jobs.

But this will only be possible if Romania sets in place a coal phase-out date before 2030 and a strategy to reach this goal which will have concrete objectives for every year, with a clear understanding of how each element contributes to reaching climate neutrality in 2050.

Thus, it is necessary to look at solutions for replacing the fossil fuels used in electricity, heating and transport by reducing subsidies and encouraging alternatives.

Romania has legislative and technical solutions available to support the upgrade from coal to renewables by balancing the energy market for fair competition and renewables integration:

'The discussion about balancing the market where for years there has been a monopoly by two actors, and the fact that for years we did not invest in capacities to be able to compete with them on this market (together with other things), led to high prices and other unpleasant situations. Competition is not encouraged and nothing is done about it.'

To reduce fossil fuel dependence on heating, energy efficiency programmes and decentralised systems have a central role.

'Energy efficiency is a field to be developed in the near future. There is a lot of money for it and local authorities will have to think of smart programmes for the energy efficiency of buildings, pay attention to energy poverty and vulnerable consumers, look at the area of centralised systems including the reduction of [greenhouse gases] in transport and the production of a thermal agent. Here I would like to see a competition of solutions for an efficient and clean production of the thermal agent... Gas will be a difficult fuel to replace... But in the long run I see an important role of rooftop photovoltaics – electrification of heating and heat pumps.'

'I hope we will not witness a complete 'gassing', but to move towards decentralised solutions, electrification in the medium- and long-term and a large efficiency increase in the short-term.'

2. Rapidly deploy renewables.

Romania's support scheme for renewable energy turned out to be a complete fiasco, as the initially promising green certificates failed to provide the needed aid for in-



vestment amortisation after a few years. Up to one-third of the smaller renewable energy producers are risking insolvency.⁵⁷

No actor on the energy market wants to continue or renew the green certificate system. Instead, a variety of tried and tested support schemes are available, and the Romanian government should begin implementing one soon in order to meet the country's 2030 renewables target. Although not ambitious given the fact that the country already has a large share of renewables in final energy consumption, primarily due to large hydropower plants, many actors agree that reaching the new goal will not be possible if a new support scheme is not in place.

The first generation of wind turbines installed in Romania will reach the end of its lifecycle before 2030. The country risks a decrease in installed renewable capacity if solutions are not found to support their replacement. However, the majority of these turbines are part of large wind parks owned by transnational corporations. If these companies are once again the beneficiaries of a large support scheme from the state budget, energy democratisation will suffer and the costs of the energy transition will be split unfairly. Instead, the Romanian government must make sure that the support scheme for new renewables prioritises small, decentralised producers, benefitting their communities first.

Besides support schemes, some other technical solutions must be taken into account for the energy system to be able to take in more renewable power and ensure stability:

'It still doesn't seem to me that we are doing enough on renewables, but at the same time we have to make sure that we are strategically planning these investments, for an appropriate cost for future generations.'

'Grid reinforcement, storage, hydrogen, [and] the development of renewables in other areas of the country, because we have potential... in other areas as well.'

'What is not taken into account as a technical solution is energy storage, a mix of storage solutions and a feasibility analysis of storage possibilities. Another solution for the grid problem is spreading energy production throughout the country, and this could be done by encouraging prosumers and improving demand-side management.'

Transport is another area that needs much more attention, with much more attention given to improvement of, and electrification of, public transport rather than only incentivising individual electric vehicles. Solutions identified by experts refer to higher taxes for internal combustion cars and using the incentives in the RABLA programme in a more rational way, to ensure they do not merely support the well-off.

'Through the RABLA programme we remove from the streets old vehicles from western countries with our

money, electric cars are at the beginning, if we look at absolute figures, the increase is insignificant. The incentive for electric cars seems a bit high to me. These funds could be used more wisely, but at the same time the taxes for cars ([running] on gasoline) are too low. They are not discouraged in any way.'

'There will come a time when car subsidies will inevitably decrease. We have to couple this with the demand and need at that time and look at it from an equity perspective – offer the voucher to those who have polluting and old cars, not to those who already have new cars and want more.'

3. Empower authorities to lead the transition.

The public perception of state authorities is poor in Romania, as they are often considered (sometimes unfairly) incompetent, corrupt or excessively bureaucratic. Large infrastructure projects such as the ones necessary to implement the energy transition have been a challenge for the country. Despite the fact that it is the country with the eighth largest area in the EU, less than 1,000 kilometres of highways are open in Romania, yet the country's extensive railway network has also been in massive decline since 1990. The energy sector is among the oldest in the EU, relying on capacities built primarily in the 1980s and nearing the end of their lifecycle. The only exceptions are the second 700 MW nuclear unit opened at Cernavodă in 2007, the 2011 Brazi gas unit, and the thousands of megawatts installed in the early 2010s in wind power.

However, the work of public authorities is crucial for the planning and implementation of the energy transition. As our experts highlighted the lack of a long-term vision as one of the issues holding up the transition, developing – in a participatory way, based on clear data – an energy policy with a time-frame longer than 2030 is crucial.

The private sector and corporate research are unable to produce innovation at the scale needed to reach climate neutrality by 2050, while the free market is resistant to the shift to a non-polluting economy. This is particularly true in Romania, where green sectors are not registering the growth they do in other countries, and SMEs are not ready to adapt to the challenges of climate change.

'I think the private sector should be more focused on long-term goals and pay much more attention to energy transition than they do today. Sometimes, in some cases, there is a rift between what companies say and what they are doing. It is rather short-term planning – the next cycle of distribution regulation, tariffs and so on. I'm not just talking about energy providers, but all companies in the energy system. However, these actions are, in most cases, an effect of the lack of regulatory stability and predictability, making companies plan their activities on the safe side, thus short term (where predictability is higher).'

'There is a degree of opportunism. Political interests will be combined with business interests and will lead to this change, a transition occurs. Without real funding, the reluctance would not have been overcome.'

Instead, all energy transition models rely heavily on significant public investments of an unprecedented scale, albeit most likely smaller than the illegal state aid, hidden subsidies and favourable legislation which has benefited the fossil fuel industry for decades. Both European Union multiannual budgets implemented in Romania since it joined the EU were characterised by one of the lowest rates of absorption, and this was mostly caused by a lack of administrative capacity to absorb the funds.

'We must build capacity, and interact with market participants. Other European states (Poland, the Czech Republic) have built new institutions dedicated to the transition, while we do not have the legal framework for the modernisation fund. The government did not allocate the necessary human resources and did not prioritise the tasks within the ministries properly.'

Central authorities are not only needed to design financing instruments and strategies for their use, but they also need to improve the regulatory framework and its implementation. Key legislation is missing, and some European directives are poorly transposed into national laws, while others are not properly applied. There is a need to improve legislative power, in order to ensure coherence between laws and adaptation to the local context, but also the executive bodies, especially those outside the capital, which are often silenced by powerful local actors, and are dependent on some of the coal plants to provide district heating. For example, the Industrial Emissions Directive has been breached for several years, because a number of power plants have been allowed to function without a permit.⁵⁸

'A lot of improvements for transparency can be made both on the primary legislation in the parliament, and the secondary legislation from ANRE (the regulatory authority in the energy field).'

'State institutions, government, parliament, parliamentary commissions, the presidency, where the regulatory legislative framework is created [are responsible for the energy transition]. They largely mirror perceptions at subordinate levels, but I've noticed that people who were usually conservative are starting to talk about new technologies, hydrogen committees, offshore wind.'

Finally, local authorities are key to making the transition just. Romania is a centralised state and it does not have a regional administration. As a result, mayors and county councils are the most relevant local authorities. While their political power is as limited as their resources (with the exception of bigger cities, which have enough of both), the role they will play in regional transformation will be proportional to the success of the transformation.

Historically, strategies and funding instruments have been designed top-down, local authorities being asked to step in and propose projects only once their framework has been designed. This approach must change, because the capital does not always understand local needs and potential. Instead, mayors should be empowered to decide their future together with their communities, leading participatory processes where all voices are heard.

At the same time, the European Commission can help by strictly and consistently enforcing its policies and legislation. It needs to prevent any more environmentally harmful state aid being approved, as well as sending clear messages about the incompatibility of gas with decarbonisation.

'The politicians should address the workforce in this industry and correctly inform them about this downward trajectory we are following and find suitable experts to support the just transition.'

'Ideally this is done bottom-up, from the community level and all stakeholders – unions, the university, citizens – understand the transformation, what will be lost and what will be gained from the transition, what are the new solutions... But in reality the transition will be top-down, even with pressure from the EU. It is possible that in the Romanian energy transition the champion will be the EU, with the government and the relevant minister as intermediaries.'

In the end, all actors – state, private, civil society – should cooperate to ensure a successful energy transition.

'For sure we need to see cooperation between all actors for a sustainable transition. We need a long-term political vision and legal framework from the institutions, we need to see responsibility from the companies, and the local community has to have a place at the table for a just transition to happen.'

'Social problems in Hunedoara [a coal region] are up to a point a non-problem – more concrete solutions can be found through collaboration between local government, central authorities and private associations, and should accelerate some findings for these problems. What is happening with the just transition strategy is a step, but how concrete it will become and how easily it will be translated to the people there is important.'



ENDNOTES

- 1 Romanian Government, The 2021–2030 Integrated National Energy and Climate Plan, *ec.europa.eu*, April 2020, 57; https://ec.europa.eu/energy/sites/ener/files/documents/ro_final_necp_main_en.pdf.
- 2 Nicoleta Banila, Romgaz receives 115 mln lei (23.6 mln euro) govt grant for Iernut power plant project, *Seenews.com*, 5 November 2020; <https://seenews.com/news/romgaz-receives-115-mln-lei-236-mln-euro-govt-grant-for-ier-nut-power-plant-project-719762>.
- 3 For example, see: International Energy Agency, IEA World Energy Review 2018, November 2018, <https://www.iea.org/reports/world-energy-outlook-2018>, and OilChange International, The Sky's Limit: Why the Paris Climate Goals Require a Managed Decline of Fossil Fuel Production, September 2016, http://priceofoil.org/content/uploads/2016/09/OCI_the_skys_limit_2016_FINAL_2.pdf.
- 4 Ministry for Energy, Green Certificates Support Scheme, accessed 3 March 2021, <http://energie.gov.ro/home/informatii-de-interes-public/surse-regenerabile-de-energie-in-romania/schema-de-spr-jin-prin-certificate-verzi/>.
- 5 Transelectrica, Total and available installed generation capacity for each dispatchable unit, per primary sources of energy, updated 28 January 2021; <https://www.transelectrica.ro/en/web/tel/productie>.
- 6 ANRE, Monitoring report of the system for the promotion of electricity produced from renewable energy sources in 2019, 2020; <https://www.anre.ro/download.php?f=fqd7g6g%3D&t=vdeyut7dlcecrLbb-vbY%3D>.
- 7 Irina Marica, EC starts infringement against Romania on micro hydropower plants in protected areas, *Romania-insider*, 12 June 2015; <https://www.romania-insider.com/ec-infringement-romania-micro-hydro>.
- 8 European Commission, Europe 2020 targets: statistics and indicators for Romania, accessed 3 March 2021; https://ec.europa.eu/info/business-economy-euro/economic-and-fiscal-policy-coordination/eu-economic-governance-monitoring-prevention-correction/european-semester/european-semester-your-country/romania/europe-2020-targets-statistics-and-indicators-romania_en#share-of-renewable-energy.
- 9 Iulian Ernst, Romania gets approval from EC for \$8bn nuclear plant expansion, *Intellinews.com*, 23 November 2020; <https://intellinews.com/romania-gets-approval-from-ec-for-8bn-nuclear-plant-expansion-197191/>.
- 10 Transelectrica, Monthly physical exchanges and monthly report of net production, December 2020; <https://www.transelectrica.ro/web/tel/functionare-retea>.
- 11 OPCOM, 4M Market Coupling, 25 September 2014; [https://www.opcom.ro/opcom/uploads/doc/pg1/4MMC/Market Coupling CZ-SK-HU-RO \(4M MC\)_EN.pdf](https://www.opcom.ro/opcom/uploads/doc/pg1/4MMC/Market%20Coupling%20CZ-SK-HU-RO%20(4M%20MC)_EN.pdf).
- 12 Razvan Botea, Romania is losing its energy power. The price of electricity on the spot market reached an all-time high on Tuesday. Import of electricity from Hungary at maximum rates, *ZF.ro*, 25 September 2019; <https://www.zf.ro/companii/energie/romania-isi-pierde-puterea-energetica-pretul-la-energie-electrica-pe-pi-ata-spot-a-atins-marti-din-nou-maximul-istoric-importul-de-energie-electrica-din-ungaria-la-cote-maxime-18412505>.
- 13 Alin Petre, Three times more electricity sold by the OEC on bilateral contracts, *IGJ.ro*, 21 October 2020; <https://www.igj.ro/economic/de-trei-ori-mai-multa-energie-electrica-vanduta-de-ceo-pe-contracte-bilaterale.html>.
- 14 Bogdan Chiritoiu, The Competition Council will complete the investigation against Hidroelectrica by the beginning of 2021 the latest, *Economica.net*, 3 December 2020; https://www.economica.net/chiritoiu-consiliul-concuren-ei-va-finaliza-pana-cel-mai-tarziu-la-incepul-lui-2021-investiga-ia-impotriva-hidroelectrica_193606.html.
- 15 Romanian Ministry for European Funds, Draft Recovery and Resilience Plan, 112, 2020, <https://mfe.gov.ro/wp-content/uploads/2020/11/587f2474d66bdf5f222009242d23f292.pdf>.
- 16 ClientEarth, EU announces legal action against Romania for illegal logging of Europe's last natural forests, 12 February 2020; <https://www.clientearth.org/latest/press-office/press/eu-announces-legal-action-against-romania-for-illegal-logging-of-europe-s-last-natural-forests/>.
- 17 Romanian Government, National policy framework for the development of the market regarding alternative fuels in the transport sector and for the installation of the relevant infrastructure in Romania, *mmediu.ro*, 7 August 2017; http://www.mmediu.ro/app/webroot/uploads/files/Cadrul-National-de-Politica_Combustibilii-Alternativi-in-Sectorul-Transporturilor%281%29.pdf.
- 18 Ministry for European Funds, National Recovery and Resilience Plan, November 2020, 38; <https://mfe.gov.ro/wp-content/uploads/2020/11/587f2474d66bdf5f222009242d23f292.pdf>.
- 19 Ministry of Economy, Energy and Business Environment, Project of Romania's energy strategy 2020–2030, with the perspective of 2050, 29, 13 August 2020; http://economie.gov.ro/images/Energie/SERO2020_13_08_2020-final_14,50.pdf.
- 20 Ministry of Economy, Energy and Business Environment, Project of Romania's energy strategy 2020–2030, with the perspective of 2050, 30; http://economie.gov.ro/images/Energie/SERO2020_13_08_2020-final_14,50.pdf.
- 21 Eurostat, Energy dependence, updated 9 February 2021; https://ec.europa.eu/eurostat/databrowser/view/t2020_rd320/default/table?lang=en.
- 22 European Council, European Council meeting (12 December 2019) – Conclusions, 12 December 2019; <https://www.consilium.europa.eu/media/41768/12-euco-final-conclusions-en.pdf>.
- 23 WindEurope, A majority of EU countries support green recovery plans for Europe, 21 April 2020; <https://windeurope.org/newsroom/news/a-majority-of-eu-countries-support-green-recovery-plans-for-europe/>.
- 24 European Commission, Assessment of the final national energy and climate plan of Romania, 14 October 2020; https://ec.europa.eu/energy/sites/ener/files/documents/staff_working_document_assessment_necp_romania.pdf.
- 25 Eurostat, Energy Intensity, accessed 26 February 2021; https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nrg_ind_ei&lang=en.
- 26 Romanian Government, The 2021–2030 Integrated National Energy and Climate Plan, 209; https://ec.europa.eu/energy/sites/ener/files/documents/ro_final_necp_main_en.pdf.
- 27 Bankwatch Romania, Coal phase-out by 2030: An unreachable goal?, *Bankwatch Romania*, 13 February 2020, 14; <https://bankwatch.org/wp-content/uploads/2020/02/Briefing-NECP-Romania-EN.pdf>.
- 28 Romanian Government, The 2021–2030 Integrated National Energy and Climate Plan, 57; https://ec.europa.eu/energy/sites/ener/files/documents/ro_final_necp_main_en.pdf.
- 29 Mihai Nicut, The gas connection will be free for all individuals, regardless of where the place of consumption is, and is done within 90 days. New law, *Economica.net*, 25 September 2020; https://www.economica.net/racordare-gaze-gratis-termen-90-zile-lege-racord-gaze-populatie-regulament-consumatori-casnici_190375.html.
- 30 Mihai Nicut, In 2025, half of Romania's gas production will come from the Black Sea – Transgaz forecast, *Economica.net*, 16 November 2020; https://www.economica.net/gaze-marea-neagra-2025-petrom-exxon-romgaz-bsog-2025-productie-gaze-marea-neagra_192761.html.
- 31 Romanian Government, The 2021–2030 Integrated National Energy and Climate Plan, 170; https://ec.europa.eu/energy/sites/ener/files/documents/ro_final_necp_main_en.pdf.
- 32 Ministry of Economy, Energy and Business Environment, Project of Romania's energy strategy 2020–2030, with the perspective of 2050, 15; http://economie.gov.ro/images/Energie/SERO2020_13_08_2020-final_14,50.pdf.
- 33 Virgil Popescu, Virgil Popescu: We expect to approve the National Energy Strategy and NECP by the end of April, *Financialintelligence.ro*, 18 February 2020; <https://financialintelligence.ro/virgil-popescu-preconizam-sa-aprobam-strategia-energetica-nationala-si-pni-esc-pana-la-sfarsit-de-aprilie/>.
- 34 Romanian Government, The 2021–2030 Integrated National Energy and Climate Plan, 53; https://ec.europa.eu/energy/sites/ener/files/documents/ro_final_necp_main_en.pdf.



- 35 Romanian Government, The 2021–2030 Integrated National Energy and Climate Plan, 54; https://ec.europa.eu/energy/sites/ener/files/documents/ro_final_necp_main_en.pdf.
- 36 Romanian Government, The 2021–2030 Integrated National Energy and Climate Plan, 86; https://ec.europa.eu/energy/sites/ener/files/documents/ro_final_necp_main_en.pdf.
- 37 Virgil Popescu, Virgil Popescu: Natural gas is the transition fuel to make the transition from energy produced from coal to green, *Economica.net*, 10 September 2020; https://www.economica.net/virgil-popescu-gazele-naturale-sunt-combustibilul-de-tranzi-ie-pentru-a-face-trecerea-de-la-energia-produsa-din-carbune-la-cea-verde_189756.html.
- 38 Romania Insider, Romania argues for natural gas as “transition fuel” towards climate-neutrality in Europe, *Romania-insider.com*, 27 May 2020; <https://www.romania-insider.com/romania-natural-gas-climate-neutrality>.
- 39 Sixty per cent of Romania’s total aid for heating is used to purchase firewood. The total amount provided is much lower than the actual need. See Center for the Study of Democracy, Energy Poverty and Vulnerable Consumers, 24 November 2017; <https://www.democracycenter.ro/romana/publicatii/policy-briefs/saracia-energetica-si-consumatorul-vulnerabil-evidente-din-romania-si-europa-brief>.
- 40 Lidia Trucă, What future does coal have in Romania, *Reporter Global*, 19 June 2019; <https://reporterglobal.ro/ce-viitor-are-carbunele-in-romania/>.
- 41 Hans von der Brelie, Romania’s coal-black heartland embraces Europe’s Green New Deal, *Euronews*, 13 November 2020; <https://www.euronews.com/2020/11/13/romania-s-coal-black-heartland-embraces-europe-s-green-new-deal>.
- 42 Vladimir Spasić, EU conditions EUR 251 million state aid to coal, power utility CE Oltenia, *Balkan Green Energy News*, 26 February 2020; <https://balkangreenenergynews.com/eu-conditions-eur-251-million-state-aid-to-coal-power-utility-ce-oltenia/>.
- 43 Energy Industry Review, Bankwatch Romania Warns of Potentially Unlawful State Aids Granted to Complexul Energetic Oltenia, *Energy Industry Review*, 16 March 2020; <https://energyindustryreview.com/metals-mining/bankwatch-romania-warns-of-potentially-unlawful-state-aids-granted-to-complexul-energetic-oltenia/>.
- 44 Adi Mosoianu, Pressed by the European Green Deal, the Oltenia Energy Complex launches the decarbonisation, *Profit.ro*, 9 March 2020; <https://www.profit.ro/povesti-cu-profit/energie/presat-green-deal-ul-europe-an-complexul-energetic-oltenia-lanseaza-decarbonarea-semn-pune-catusi-putin-problema-rambursarii-unui-imprumut-nevoie-absoluta-bani-berd-bei-19289106>.
- 45 Energy Industry Review, Romania One Step Closer to CJEU Due to Coal-fired Power Plants, *Energy Industry Review*, 6 July 2020; <https://energyindustryreview.com/metals-mining/romania-one-step-closer-to-cjeu-due-to-coal-fired-power-plants/>.
- 46 Romania has not been fined yet – Bucharest’s newly elected mayor requested in December 2020 more time to implement measures in his mandate. See: CJEU: Romania Has Systematically Violated Pollution Norms In Bucharest, *Romania Journal*, 30 April 2020; <https://www.romaniajournal.ro/society-people/social/cjeu-romania-has-systematically-violated-pollution-norms-in-bucharest/>.
- 47 Bankwatch Romania, Institutionalised Corruption in the Third Largest Romanian Company, *Bankwatch Romania*, July 2016; <https://bankwatch.ro/wp-content/uploads/2020/03/Coruptie-institutionalizata-in-a-treia-cea-mai-mare-companie-romaneasca.pdf>.
- 48 Bankwatch Romania, State Capture: A case study about natural gas exploitation and transportation in Romania, *CEE Bankwatch Network*, October 2019; <https://bankwatch.org/publication/state-capture-a-case-study-about-natural-gas-exploitation-and-transportation-in-romania>.
- 49 Romanian Gas and Electricity Market Operator, Balancing Market, *Opcom*, https://www.opcom.ro/tranzactii_produce/tranzactii_produce.php?lang=ro&id=14; accessed 1 March 2021.
- 50 Adi Mosoianu, Pressed by the European Green Deal, the Oltenia Energy Complex launches the decarbonisation, *Profit.ro*, 9 March 2020, <https://www.profit.ro/povesti-cu-profit/energie/presat-green-deal-ul-europe-an-complexul-energetic-oltenia-lanseaza-decarbonarea-semn-pune-catusi-putin-problema-rambursarii-unui-imprumut-nevoie-absoluta-bani-berd-bei-19289106>.
- 51 Ministry for European Funds, MFE launched the project “Strategy for the transition from coal in the Jiu Valley” for the period 2021–2027, 10 December 2019; <http://mfe.gov.ro/mfe-a-gazduit-astazi-conferinta-de-lansare-a-proiectului-strategie-pentru-tranzitia-de-la-carbune-in-valea-jiului-privind-perioada-2021-2027/>.
- 52 Ministry for European Funds, Public consultations for the period 2021–2027: Sustainable Development Operational Program and Just Transition Operational Program, 27 August 2020; <https://mfe.gov.ro/consultari-publice-pentru-perioada-2021-2027-programul-operational-dezvoltare-durabila-si-programul-operational-tranzitie-justa/>.
- 53 Dan Popa, How often do ministers change in Romania?, *Hotnews.ro*, 5 September 2019; https://economie.hotnews.ro/stiri-finante_ban-ci-23351567-cat-des-schimba-ministrii-romania-ultimul-jumatate-educatie-perindat-sefi-media-viata-functiei-ministru-roman-sub-400-zile-2000-zile.htm.
- 54 For more information about Projects of Common Interest (PCIs), see European Commission, Projects of Common Interest, https://ec.europa.eu/energy/topics/infrastructure/projects-common-interest_en, last accessed 3 March 2021.
- 55 Romanian Government, The 2021–2030 Integrated National Energy and Climate Plan, 117; https://ec.europa.eu/energy/sites/ener/files/documents/ro_final_necp_main_en.pdf.
- 56 The Dobrogea region, in the southeast of the country, is where most of the wind turbines and both nuclear reactors are installed. With a few exceptions, the area is mostly rural and agricultural. Meanwhile, the region where the 400 kV ring is not finished is in the northwest.
- 57 One third of PATRES producers are insolvent or bankrupt. Who can trust a state that is harassing its investors?, *PATRES*, 11 March 2017; <http://patres.org/semnal-o-treime-din-producatorii-de-e-sre-din-patres-sunt-in-insolventa-sau-faliment-cine-sa-mai-aiba-incredere-intr-un-stat-care-isi-matraseste-investitorii/>.
- 58 European Commission, February infringements package: key decisions, 18 February 2021; https://ec.europa.eu/commission/press-corner/detail/en/inf_21_441.

SERBIA





ENERGY SECTOR OVERVIEW

Serbia, with around 6.9 million people,¹ has the second most coal-dependent power supply in the Western Balkans. More than half of its installed electricity generation capacity is made up of coal plants, around a third hydropower, and the remainder consists of wind power, gas/oil combined heat and power plants, and much smaller amounts of solar, biomass and biogas.

The electricity market in Serbia is dominated by the national power utility EPS (*Elektroprivreda Srbije* – Power Industry of Serbia), which owns all large coal and hydropower generation capacities and supplies most consumers. EPS has eight coal plants with a total of 25 units, with the Nikola Tesla A and B plants generating over half of Serbia's electricity.

Solar is advancing extremely slowly, with an estimated 10 MW online at the end of 2019. Wind experienced a rapid upturn as Serbia approached its 2020 renewables target deadline, reaching 373 MW by the end of 2019.

The proportion of electricity generated by each source differs from the installed capacity due to differences in relative efficiency levels and operating conditions. Around two-thirds of Serbia's electricity is generated by coal, with hydropower accounting for most of the remainder.

Serbia's electricity generation capacity is able to meet domestic demand most years. But despite the relatively low share of hydropower by regional standards, there is still a pattern of imports during dry years and exports in wetter years. The clear exception is 2014, when the country had to import significant quantities of electricity due to the May floods affecting the Nikola Tesla coal power plants.

Currently, two fossil fuel power plants are under construction – the 350 Kostolac B3 coal plant³, built by China's China Machinery Engineering Corporation, and the

200 MW Pančevo combined heat and power plant, built by Gazprom Energoholding and Naftna Industrija Srbije with China's Shanghai Electric Group as the main contractor.⁴

Electricity consumption has remained relatively constant in the last ten years, growing only slightly.

Serbia undertook commitments to increase the share of renewable energy – for total final energy consumption, not just electricity – under the Energy Community Treaty to 27 per cent by 2020. However by 2019, it had only reached 21.4 per cent.⁵ The reason given for this failure to meet the target is that the newly installed capacity is insufficient to keep up with rising energy consumption⁶ – presumably for heat and transport, as electricity consumption has risen only a little, as shown by the graph above.

Serbia limited its wind plans to 500 MW by 2020, and solar to just 10 MW,⁷ due to concerns about cost and impacts on the grid. But the quota for wind incentives had been filled by early 2016,⁸ leaving project developers in limbo since then.

The country also planned 200 MW of small hydropower – of which less than half was realised.⁹ But even this amount has caused huge controversy, with protests across the country.¹⁰ By the end of 2019 around 113 newer small hydropower plants were online,¹¹ but they generated only 0.7 per cent of Serbia's electricity.¹² Serbia has incentivised biogas more than other countries in the region, but so far it is also playing a very minor role.

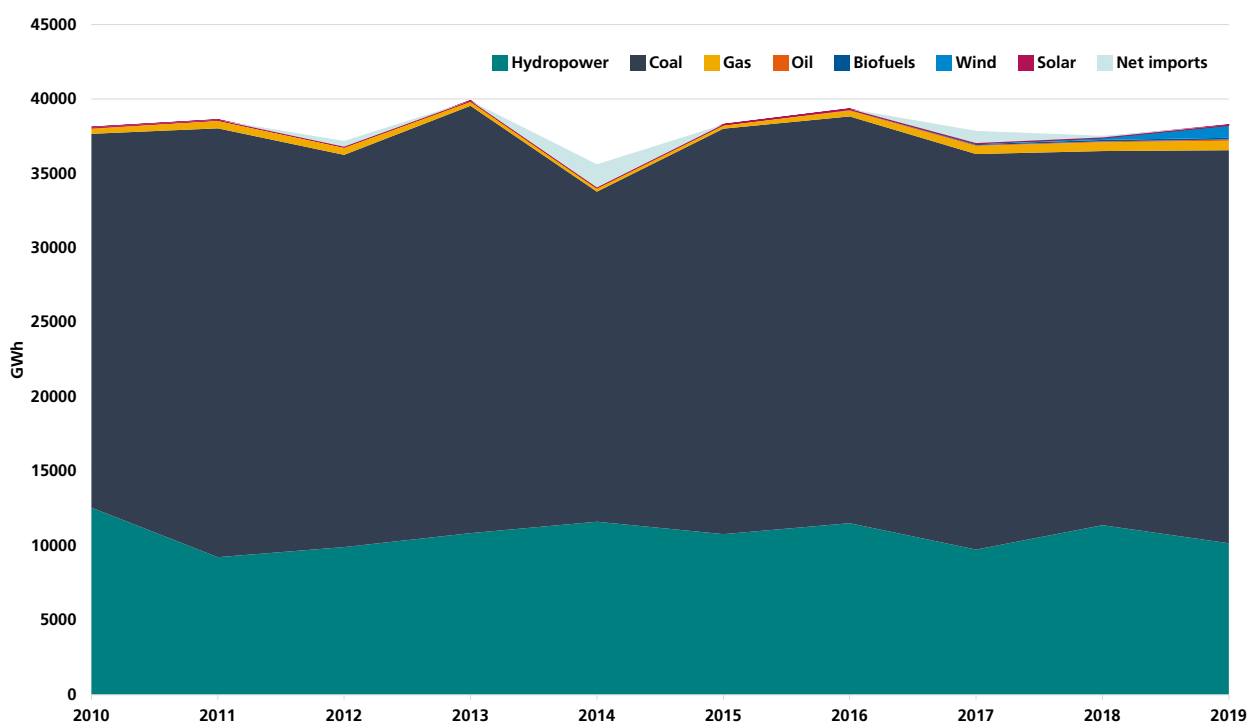
Like its peers, Serbia uses energy inefficiently – it is 3.5 times as energy-intensive as the EU average.¹³ Energy prices are kept artificially low for end consumers and there is therefore little incentive to use energy sparingly or invest in insulation. The residential sector is responsible for the highest share of total final energy consumption and has massive potential for improvements.¹⁴

Table 1
Installed capacity of electricity generation facilities in Serbia, 2019

Energy source	Installed capacity, 2019, MW	Per cent
Large hydropower	2,941	35.5
Small hydropower owned by EPS	41	0.5
Lignite	4,429	53.5
Combined heat and power (gas, oil)	330	4
Wind	373	4.5
Solar	10	0.1
Biogas	15	0.2
Independent small hydropower and other sources	135*	1.6

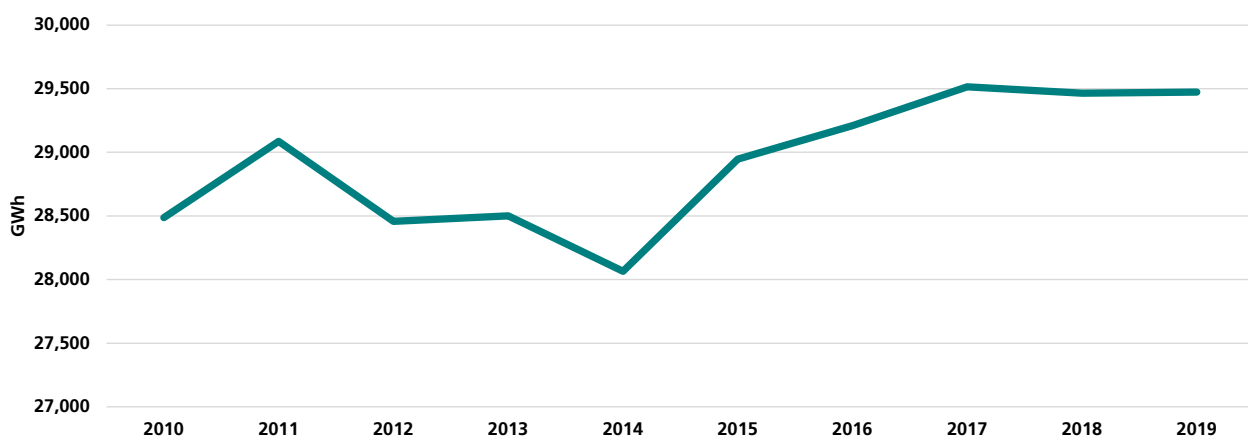
* Estimated from the small producers' data provided by AERS minus the solar and biogas data provided by IRENA.
Source: AERS Annual Report 2019, [http://www.aers.rs/Files/Izvestaji/Godisnji/Eng/AERS Annual Report 2019.pdf](http://www.aers.rs/Files/Izvestaji/Godisnji/Eng/AERS%20Annual%20Report%202019.pdf), and International Renewable Energy Agency, Renewable Energy Capacity Statistics, 2020, https://irena.org/-/media/Files/IRENA/Agency/Publication/2020/Mar/IRENA_RE_Capacity_Statistics_2020.pdf.

Figure 1
Electricity generation in Serbia, 2010–2019



Source: IEA Statistics, <https://www.iea.org/data-and-statistics/data-tables?country=SERBIA&energy=Electricity&year=2010>

Figure 2
Electricity consumption in Serbia



Source: AERS Annual Report 2019, p. 16; [http://www.aers.rs/Files/Izvestaji/Godisnji/Eng/AERS Annual Report 2019.pdf](http://www.aers.rs/Files/Izvestaji/Godisnji/Eng/AERS%20Annual%20Report%202019.pdf)

The most common forms of heating for individual houses are wood, coal and electricity. Larger towns and cities have district heating systems, with about a quarter of households in the country connected to such systems. 80.6 per cent of the heat from centralised heating plants is based on gas, 9.2 per cent is from oil derivatives, 9.7 per cent is from coal, and biomass makes up less than one per cent.¹⁵

Around a third of households use wood for heating, around a fifth use electricity (traditional heaters, not heat pumps), ten per cent use coal and just under ten per cent use natural gas.¹⁶

Data on transport in Serbia is scarce;¹⁷ however, it is clear that private road transport predominates for both passenger and goods transport. Public transport consists mainly of buses and coaches, and rail transport made up only 3.5 per cent of non-urban passenger kilometres in 2019. The situation is somewhat better with freight, with rail accounting for 22.5 per cent of freight kilometres,¹⁸ but there is great room for improvement.

One of the reasons why Serbia is so coal-dependent is its reserves of lignite, mostly from the two largest mining basins in the country, Kolubara and Kostolac. The much smaller Resavica coal mines are also still operating, albeit with heavy losses,



and produce both lignite and a small amount of hard coal.¹⁹

According to research carried out by Bankwatch in 2018, the productivity level measured in tonnes of lignite produced per worker per year at the Drmno mine, supplying the Kostolac plants, and at Kolubara is above the Western Balkan average. In 2017 Drmno's productivity reached 4,427 tonnes, much more than at the Kolubara mining basin – 2,950 tonnes in 2017. But both were far below the EU average of 6,111 tonnes per worker.²⁰

The *Naftna Industrija Srbije* (NIS) company²¹ extracts gas in the Vojvodina region (northern Serbia), which in 2019 amounted to 293 million m³ – 12.6 per cent of Serbia's consumption.²² Most of the remainder of Serbia's gas is imported from Russia by *Yugorosgaz JSC*.²³ The gas transmission network is more developed than in other countries in the region, with around 70 per cent of the population living in areas with a developed transmission grid.

NIS also extracts crude oil at 63 oil fields with 666 wells in Serbia. In 2019, 25.47 per cent of Serbia's needs were produced domestically and 74.53 per cent was imported from Iraq and Russia. Crude oil processing takes place at the Pančevo oil refinery.

Serbia's net energy import dependence was 35.6 per cent in 2019, compared to the EU-28 average for the same year of nearly 58 per cent.²⁴ This reflects the use of mostly domestic resources for electricity generation. But its import dependence has been increasing since its lowest level of 24 per cent in 2013.²⁵

SERBIA'S ENERGY POLICIES

As Serbia plans to join the EU, it needs to achieve full decarbonisation by 2050, meaning a full phase-out of fossil fuels, including coal, oil and gas. Serbia confirmed this intention by signing the Sofia Declaration in November 2020, which includes a commitment to adopt the EU's Climate Law.²⁶

However, planning for decarbonisation in its early stages. Prior to the appointment of the new Minister of Mining and Energy, Zorana Mihaljović, Serbia had been delaying the development of a number of energy planning processes, so it needs to do a lot to catch up.

One of the few processes which had started was the updating of Serbia's national spatial plan, with the draft including the Štavalj, Kovin and Kolubara B coal power plants. Since then, Kolubara B has been cancelled, but the former two do not appear to be progressing, and their re-appearance is both surprising and worrying.

The new Minister of Mining and Energy has made some positive announcements, pledging to make big changes in the energy sector, to reform EPS and Srbijagas, and to tack-

le the inefficient use of energy.²⁷ She has cancelled Kolubara B, as mentioned above, and has passed several new laws including new laws on renewable energy and energy efficiency.

More controversially, she has announced an expansion in the use of biomass, gas, and medium-sized hydropower plants,²⁸ all of which raise sustainability concerns.²⁹

None of this has yet been reflected in Serbia's policies, as it has not yet set 2030 climate, energy efficiency and renewable energy targets, nor has it published any draft National Energy and Climate Plan (NECP).

Serbia's existing Energy Sector Development Strategy,³⁰ adopted in 2016, is clearly out of date. As well as the 350 MW Kostolac B3 lignite power plant which is currently under construction, the strategy lays out a long wish list of potential new fossil fuel power 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 (may consist of separate plants)
- Other gas combined heat and power plants – 860 MWe – gas

Out of these, a 200 MW gas combined heat and power (CHP) plant at Pančevo is under construction as mentioned above. An attempt to revive the Kolubara B coal power project³¹ was cancelled in May 2021.³²

The implementation plan for the Strategy,³³ which is supposed to be in force until 2023, is also outdated, as all of the wind parks planned except one have been built already, so there is little guidance on what happens next.

On renewable energy, Serbia's National Energy Renewable Action Plan was only valid until 2020, so new plans need to be made as soon as possible in the form of an NECP.

Serbia is not well advanced in the preparation of its NECP, which should set a greenhouse gas emissions reduction target, a renewable energy target, and an energy efficiency target for 2030. According to the Energy Community Secretariat's Transition Tracker, its working group has not even been set up yet. It is, however, working on a low-carbon development strategy and updated Nationally Determined Contribution (NDC) under the Paris Agreement, which is also at an early stage as of February 2021, but more advanced than the NECP.³⁴

It is therefore rather unclear what direction Serbia's energy policy will now take. This crossroads presents an opportunity to break with unwise past decisions such as resurrecting Kolubara B and to address the systematic neglect of the country's solar potential and newer solutions like heat pumps.

WHY IS SERBIA'S ENERGY TRANSITION NOT ADVANCING MORE QUICKLY?

STATE CAPTURE BY INCUMBENT PUBLICLY-OWNED UTILITIES, LACK OF TRANSPARENCY AND RULE OF LAW

'You know, the energy transition is not part of the political discourse and political narrative in Serbia. I think it's because it is a Pandora's Box for Serbian politicians, because if you put the issue of energy transition into the policy dialogue, then you have to mention also social aspects, environmental aspects. And they don't know what to do with that issue. So in that sense, I think energy transition is still taboo in Serbia.'

The dominance of EPS in Serbia's power sector, and its long-term resistance to reform, is a key problem for the country's energy transition. As a company that knows how to manage a lignite- and hydropower-based system, EPS, like many other state-owned utilities in the region, has been slow to pick up on the potential of other renewable energy sources, and has continued to hold back Serbia's overall energy policy.

But this is only one part of the issue. EPS exists in a close but ultimately destructive symbiosis with the Serbian state: it feeds on the state and the state feeds on it.

'... EPS is political, it is not a public company. It is a political company. It is owned by those who captured the state. So nobody wants to give this up, to leave this position of monopolising the market.'

Successive governments have kept EPS in a privileged position, avoided opening up the electricity market to real competition and provided it with subsidies³⁵ when needed. They have also allowed EPS to repeatedly breach environmental legislation, such as the Large Combustion Plants Directive,³⁶ and have turned a blind eye when the company has made life unbearable for communities near its operations due to noise, vibrations, damage to houses and wells.³⁷

But they have also used EPS for their own benefit. EPS' Director and Supervisory Board members are appointed by the government,³⁸ and despite the low profitability of the company, between 2015 and 2019, it paid EUR 250 million into the state budget – money which has therefore not been available for investments.³⁹ Low electricity prices for households are used as a social measure, while political support by EPS employees is bought by delaying layoffs and keeping salaries at a relatively high level.

In 2019 EPS employed more than 27,500 people,⁴⁰ and numerous other companies benefit from subcontracting works for EPS. So measures impacting EPS are not taken lightly.

'I think we are totally hostages of the state, of the electricity public company. And everything is done so as not to harm the company.'

'I will say it's not lack of knowledge. In their world, it's [a] very reasonable decision. They actually do this because a lot of Serbian companies are actually involved in opening of mines, in the removal of rivers, in drainage of the mines, in producing millions of tonnes of concrete necessary for opening and processing, also in transporting coal, digging coal, most of these are being done by Serbian companies, so you have a whole industry around this.'

Attempts at reform have largely been driven by international institutions such as the IMF, World Bank,⁴¹ EU and EBRD,⁴² and have not attracted sustained political support within Serbia. This is mainly due to the politically very sensitive issues of job losses and electricity tariff increases – a particularly sensitive issue with a fifth of households using electricity for heating. But it is also because these institutions' recipe for change involves turning EPS into a joint stock company and selling at least part of its shares, which is also not widely supported.⁴³

As a result of the authorities' failure to build consensus around how to modernise EPS, progress in making the company more efficient and forward-looking has been painfully slow.⁴⁴ In 2016, the World Bank went public about its frustration with EPS:

For an outsider such as me, EPS is a bewildering phenomenon. The company pays the highest salaries in the country, delivers mediocre services (at best), is unable to stop electricity theft that, by its own account, costs 0.2 percent of GDP, and is unwilling to invest in clean technologies, even if they are financed, on a concessional basis, by a major bilateral donor. Yet, all these facts tend to be overlooked in the ongoing discussion on EPS reform, and those interested in the status quo have successfully managed to focus public attention to the single issue of 1,000 net reduction in employment.⁴⁵

Despite years of promises to the IMF,⁴⁶ in 2020 Serbia's Fiscal Council was still warning that serious issues remained unaddressed:

... this is the critical moment for EPS to undergo a substantial reform and finally remove the key obstacles that prevent it from performing well – excessive wage bill due to a surplus of employees and a generous remuneration system, low electricity tariff, major technical losses and theft within the network, collection issues etc. Otherwise, EPS could easily become a serious risk for Serbia's public finance in the medium term.⁴⁷

Indeed, the company made losses of RSD 5.7 billion, or EUR 49 million, in 2019,⁴⁸ so the situation is becoming urgent.

Reform of EPS is not only inevitable but would also bring clear benefits, so more needs to be done to identify how to make it happen with the fewest negative impacts and to



maximise positive ones. For example, independent and forward-looking management could surely be implemented without privatisation if desired, and other measures such as gradual electricity price increases need to be coupled with measures to soften the blow, including not only lower rates for vulnerable customers, but also incentivising insulation of housing and installation of heat pumps instead of using old-fashioned and inefficient electric heaters.

Apart from structural issues, another issue that threatens to boomerang for EPS, and hence for Serbian consumers and taxpayers, is the lack of transparency and public scrutiny of investments in major infrastructure.

'So as far as I know, only Bosnia and Serbia... are building new power plants on coal – those are Chinese investments. And this is something – it's very difficult to fight it, because the rules are completely different than for everybody else, those rules don't apply. I think it's terribly wrong.'

'The key source of pollution in Serbia is corruption and lack of accountability and transparency... It is increasing day by day and month by month – more and more information is not available. And also I would link it with the lack of constructive dialogue on policy solutions and faking public participation [in decision-making].'

Serbia has been repeatedly criticised by the European Commission for repeatedly fast-tracking a slew of major decisions on laws and investments, thus diminishing their transparency and parliamentary scrutiny,⁴⁹ and this is certainly true in the energy sector.

Investments at the Kostolac coal power plant represent a particularly vivid example. On 22 July 2010, EPS, its subsidiary TE-KO Kostolac, and the *China Machinery Engineering Corporation* (CMEC) agreed to develop the Kostolac B Power Project, consisting of two phases – 1) installing desulphurisation equipment at the existing Kostolac B plant, and 2) building the new B3 unit.

No tender procedure took place. Instead, the Chinese and Serbian governments signed an intergovernmental agreement freeing joint projects from tender obligations⁵⁰ – a move which would not be allowed under EU law.

A USD 608 million loan contract was signed for phase 2 of the project with China Eximbank in December 2014.⁵¹ In early 2015 it was ratified by the Serbian parliament in an extraordinary session announced to the public less than 24 hours in advance. The contract contains several problematic provisions, e.g. any arbitration will take place in Beijing.⁵²

The full feasibility study for the project is not available to the public, but a summary shows that the authors of the calculation presumed, without any basis, that no costs for CO₂ emissions would have to be paid because if and when such a charge is introduced, the state would pay it.⁵³ This would not be allowed under EU rules, so the calculations

were based on a completely false premise, yet there have been no reactions from decision makers at all about this or any other aspects of the project.

Moreover, the first opportunity for the public to give any opinion about the new plant was during the environmental impact assessment (EIA) procedure, first held in 2013, and repeated in 2017 due to a lack of transboundary assessment. Given that the agreement to carry out the project had been signed in 2010, both of these came much too late to have any real influence on the project.⁵⁴

The Kostolac B Phase 1 project to fit a desulphurisation unit is another example of opacity.⁵⁵ The retrofitting works were finished in July 2017 according to media reports, and an opening ceremony was held. Yet for more than three years the equipment was not functioning, with test operations only starting in October 2020.⁵⁶ Over USD 130 million paid from the public purse was spent with no results whatsoever so far. This plant is a serious threat to public health in Serbia and neighbouring countries – its 2016 emissions were responsible for 657 premature deaths and over EUR 460 million in health costs. There is no information available to the public about what is going on – is it a construction mistake, an operational flaw, or a mix of both?

Such issues are not limited to EPS investments, but also apply to investments in small hydropower plants. These have been touted as Serbia's attempt to introduce renewable energy, but have generated more controversy than power. Various investigations by organisations such as the Centre for Investigative Reporting Serbia (CINS) have shown that some of those benefiting from the feed-in tariff scheme are very close to the government or involved in criminal activity.⁵⁷

Lack of transparency and scrutiny over decision-making is part of a much wider issue of lack of accountability by decision makers and lack of rule of law. Despite the alarming extent of environmental problems in Serbia, especially air pollution, decision makers have barely reacted, let alone faced any consequences for their lack of action. This dearth of accountability needs to be addressed overall, not only in the energy sector.

'I think [there is a] lack of accountability because... who's even questioning if something has been done? I've never seen anything other than what comes from the civil sector. I've never seen anything really being assessed...'

'It's the rule of law, independence of courts and access to legal remedies [that are missing] when... state actors or private actors are breaching the law. Serbia is a captured state and the Serbian judicial system and legal system is not functional at all. When you are in a situation where any actor in the energy field is faced with difficulties and needs to protect its rights, it is not possible to... achieve in Serbia, so I think that if there was an independent judiciary in Serbia, we would solve the energy transition problem very soon.'



OUTDATED VIEW OF THE ENERGY SYSTEM AND LACK OF UNDERSTANDING OF THE SPEED OF CHANGE

'You have a turbine in our thermal power plants and you have generators... and the inertia connected to that rotating, it's huge. The same with mindset. So, it's not easy. We cannot expect that we can change the whole paradigm very fast... If you have 100 knowledgeable, sophisticated and in engineering terms, very good guys in the field, I think just 10 to 15 per cent are well educated, open-minded and ready to start with these topics.'

Serbia's energy planning seems to display a lack of understanding of the pace of change taking place across Europe and beyond – or at least a lack of understanding of the impacts of these processes on Serbia. While the decision to build Kostolac B3 was taken more than a decade ago, the decision to resurrect the Kolubara B project was taken only in 2018.⁵⁸ Nevertheless, the recent cancellation of the latter in May 2021 provides hope that a change of direction is underway.

'Serbia is imagining to remain a powerhouse and also to export electricity... New investments... for the two or three new power plants and new mines – when I say mines it is equipment, diversion of rivers, opening of mines – show that Serbia's capacities for production and consumption of coal will increase.'

'I mean, the energy strategy... this is an outdated document that was outdated at the moment when it was enacted. So, you can imagine how outdated it is today. It's just wrong.'

'...[C]hanging of the political way of thinking, changing of priorities – it is something which is not going to happen in Serbia soon. Serbia at this moment is in the process of development of a new spatial plan for the whole country. And according to the spatial plan, three big [coal] thermal power plants are planned to be built.'

'Europe has been thinking... to introduce a so-called carbon border adjustment mechanism. Which is going to be very, very unpleasant for the factories in this region. And even for the export of electricity. That's why we have to speed up our energy transition process.'

Given how outdated Serbia's 2016 Energy Development Strategy is, we expect that under the new minister, Serbia will undertake a new round of planning, including the National Energy and Climate Plan. Therefore, it is difficult to say whether a shift is taking place in Serbia's recognition of the need for change, though it is now certainly moving forward with some long-delayed moves such as changes in the Law on Energy and the introduction of more market-based renewables incentives.

A general trend in Serbia's energy policy has been a lack of willingness to move away from the model that the country

is familiar with – a predominantly centralised model based on large facilities.

'Every government wants to provide security of supply for consumers. There's nothing bad to say about that. But there are many ways in which you can do that. So, what I think is the shortcoming is that no alternatives have been analysed on how to secure this security of supply. This is number one.'

Even when the need for a change from coal is accepted, the alternatives mentioned usually involve staying as close to the current model as possible, e.g. by increasing hydro-power and replacing coal with gas or biomass, rather than trying to decentralise electricity generation⁵⁹ and maximise efficiency through building retrofits and cutting distribution losses.

'We have around one per cent of renewables, mainly biomass, in district heating. But gas dominates... And there are signals that the government is strongly committed to spreading the gas network, particularly in Belgrade and other big cities. So, there is no serious thinking on how to strengthen renewables in district heating.'

'... Serbia, since the adoption of the first action plan for renewables, decided to invest significant administrative resources and efforts into small hydro projects, which are completely unsustainable in several ways, not only due to the adverse impact on the environment and biodiversity, but also due to the lack of the outcome of that intervention. At this moment, the percentage of small hydro in final energy is very low... It did not contribute to sustainable utilisation of energy.'

'And again..., the government invests in those areas which are... high[ly] costly for the state, because now we will switch to strengthening the biogas sector for electricity production, which is well known that it costs so much and does not contribute to production of electricity on the level that could be gained through wind or solar.'

More innovative solutions such as low-temperature district heating and heat pumps are almost never mentioned. Despite the high share of households in energy consumption, remarkably little attention has been paid to their potential, either in the field of renewable energy or energy efficiency, reflecting a very centralised view of the energy sector.

'[The National Renewable Energy Action Plan had] very low ambition. And without any concrete plans or measures for the residential sector. This means the constant neglect of... introducing prosumers and smart grid and using geothermal energy and other possibilities for the residential sector, which is almost completely excluded from the ambitions...'

'And the Law on Efficient Use of Energy, which was adopted in 2013, was [only] enforced by bylaws three years later. The goal [for energy savings on local com-

munities' level] is one percent per year compared to the baseline year..., which I think is a very low ambition. And it doesn't tackle serious and organised efforts of the state to support energy efficiency in the residential sector.'

This seems to be a vicious circle, as the lack of interest in renewable energy and energy efficiency also led to it being seriously under-resourced at the government level.

'[W]e don't have enough capacity in the ministry, and I also mean that in terms of manpower, because there are really very few of them. So, you know, frankly speaking, sometimes we are criticising and we expect them to [do more] – they are like two persons in the renewables department and the efficiency, energy, all together.'

The Minister for Mining and Energy's statements mentioned above do at least show a concern for energy efficiency, which is crucial, but dedicating sufficient resources and implementation in reality remains to be seen.

INCOMPLETE TRANSPOSITION AND IMPLEMENTATION OF EU RULES AFFECTING THE ENERGY SECTOR

Serbia's participation in the Energy Community Treaty, as well as its EU accession ambition, means it has to apply unified EU rules guiding the energy sector. In practice this means that certain policy options are becoming uneconomical – particularly building new coal plants and even operating existing ones. The more they have to pay for the plants' external costs, by installing pollution control equipment and paying for CO₂ emissions, the less the plants pay off.

Some EU rules that impact the energy sector are transposed into Serbia's legislation, such as the Third Energy Package in the electricity and gas sectors; some are partly transposed or mis-transposed; and some are not yet transposed, such as climate-related legislation and the Industrial Emissions Directive.

An example of mis-transposition is the fact that it is possible to obtain a construction permit for new facilities before the environmental impact assessment process has been completed, in breach of the EU EIA Directive. For example, a construction permit was issued for the chimney of the Kostolac B3 coal plant more than a year before the plant's EIA process was completed. A construction permit was also issued for the Belgrade incinerator more than a month before the EIA was approved, thus making a mockery of the public consultation process.

The European Commission has been asking Serbia to improve its EIA legislation for several years,⁶⁰ and in 2018 a draft of a new law was made available to civil society groups.⁶¹ Yet, like many other laws and strategies, it has been delayed, and has still not been adopted as of February 2021.

In April 2021 Serbian National Assembly adopted new Laws on Energy Efficiency and Renewable Energy, and amendments to the Laws on Energy and Mining.⁶² The Law on Renewable Energy brings Serbia's legislation more in line with that of the EU on issues like renewable energy incentives, but also contains some worrying provisions that appear to make it easier to carry out projects without tender procedures.

The new Minister for Environment, Irena Vujović, has put forward a proposed programme on nature protection for 2021 to 2023, but has otherwise not been very forthcoming publicly about her plans to improve Serbia's environmental legislation.

Implementation is another serious issue, closely linked to state capture and lack of transparency, not only regarding EPS, but also independent producers.

'Yes, we have significant problems, particularly in enforcement of EU and Energy Community rules. It is obvious when it comes to the Large Combustion Plant Directive, when it comes to the Directive on ambient air quality and also when it comes to State aid – the Serbian coal sector is still significantly supported through illegal State aid.'

Possibly the most blatant ongoing implementation failure relates to the Large Combustion Plants Directive, which entered into force at the beginning of 2018. In 2019, sulphur dioxide (SO₂) emissions from EPS' coal plants breached Serbia's national ceiling by 5.6 times.⁶³

On the plant level, the biggest emitter was Kostolac B, whose SO₂ emissions alone breached the whole national 2019 ceiling by 1.45 times, at a soaring 79,113 tonnes, followed closely by Nikola Tesla B1 and B2, which emitted 78,837 tonnes.⁶⁴

Another issue is that permitting procedures for EPS facilities have become almost impossible to comprehend. For example in the failed desulphurisation project at Kostolac B, construction was already underway in June 2015, before the EIA procedure for the installation was finished. The public debate on the EIA took place on 18 August 2015 and the construction permit was issued on 31 August,⁶⁵ in record time after the public EIA debate, but with the construction half-finished already.

Later, another application for a construction permit for the desulphurisation unit was submitted in November 2018⁶⁶ – more than a year after the facility was declared finished. The permit had still not been issued by the time this information was published in May 2019, but had been rejected twice, for unknown reasons. It is also unclear what happened to the original permit from 2015.

To add to the mystery, in December 2019, the Serbian Ministry of Environmental Protection opened a public consultation on a new EIA for the desulphurisation unit, despite it having been built for two and a half years already.



In April 2021 both the Ministers for Environment and Energy claimed that Kostolac B is now complying with the emission limit values for sulphur dioxide, but as the desulphurisation is only in its testing phase, this statement seems premature.⁶⁷

A much smaller, but also blatant, example is the Zvonce small hydropower plant on the Rakitska River. In 2019 the Babušnica local construction inspectorate stopped works on the plant and the national level environmental inspectorate ordered the removal of about 350 metres of pipeline from the riverbed. The investor did not comply, the works on the plant continued, and in 2020 the investor even received a usage permit. In August 2020, the Rakita villagers, with the help of activists from across Serbia, decided to try to remove the pipes on their own.⁶⁸

Apart from egregious environmental violations, State aid is another area where implementation is lacking.⁶⁹ Although the structural independence of the Serbian State aid authority was improved by legal changes at the end of 2019, current State aid measures are unlikely to be in compliance with EU State aid rules, notably those paid out to the Re-savica mines annually.

'I believe there are very few people who actually know the economics of producing energy from coal in Serbia because this is kept secret. We know now – there was a study – so we know there are very heavy subsidies into the sector. They're like direct fiscal subsidies coming directly from the budget, which is, of course, not complying with the EU State aid rules.'

Worryingly, for both environmental and State aid breaches, the authorities do not seem to feel sufficient pressure to explain to the public what is going on, let alone to rectify the breaches. This reflects the lack of consequences for countries flouting Energy Community rules – a region-wide issue, as well as the dysfunctional justice system within Serbia mentioned above.

'I mean, the consequences [of breaching the Energy Community rules] are really not hurting at all. They are toothless, you know... We've never seen the pressure from the EU. I've actually never seen that. Maybe people from the Ministry would say, oh, we are pressured every day, but there's no reaction to that pressure, which tells me the pressure is not strong enough or... the points of pressure are wrong or something...'

LACK OF POLITICAL COURAGE TO CLOSE COAL MINES AND TACKLE JUST TRANSITION

Concerns about job losses from mine closures certainly represent a barrier to Serbia's energy transition. Yet a decrease in coal sector employment is anyway needed, as we have seen above, and some progress has reportedly been made with reducing the workforce in EPS.⁷⁰ Yet any moves made are done as quietly as possible, with the authorities apparently afraid of the public's reaction. They are clearly

aimed at stabilising EPS and not yet linked with any public recognition that the coal sector will need to wind down in the next couple of decades.

'Every government is kind of afraid of the working force – the miners in particular – like in every country, this is totally normal. So, they have to tackle that really carefully... But they do have pressure from the people employed in the coal sector, because there are so many of them. So, this is obviously something where the government needs to be very courageous, you know, and they have to find money for the transitions as well, if you ask me, they have to pay them something. And for some of them, you also have to find alternative jobs.'

Instead of clearly recognising the issues, drawing up a plan in a participatory manner and explaining the importance of a just transition to the wider public, as well as how negative impacts will be mitigated, Serbia's authorities appear to be largely in denial.

'What I don't understand is why we have not done anything in the last ten years to... to manage this employment thing, you know? Because maybe a large number of employees don't even work, they're just on the payroll... Maybe they want to just have that severance pay and go somewhere, maybe they don't want to work on an open pit mine, but you can offer them some other job, do some prequalification or something. So, these are tasks nobody can do overnight. But we lost a lot of time because we were so ignorant and in denial of what's going to happen.'

As recently as May 2020, a few weeks before the most recent election, President Vučić visited Kolubara and claimed that EUR 500 million would be invested in the mine in the coming years, that the mine would supply coal for the next sixty years and that there would be no layoffs or pay cuts.⁷¹ With irresponsible and unrealistic messages such as these, it will be extremely hard to make progress in developing a realistic plan for a just transition for the coal mining regions.

'Guys working in the open pit mines, their lobby, it's pretty strong. Pretty strong and very influential... So, of course, I very much appreciate and I know these guys, I know their mindset... But... it's not good for any society if you leave such a sophisticated topic to be decided based on the coal guys' lobby. But you have to take into account their standpoints and energy transition must be fair. You have to open chances for those guys.'

'I think that the trade unions in the coal sector are not aware about the energy transition issue and they are not organised in a way to advocate for an energy transition, which will be socially just and sustainable for coal workers... They are not asking the simple question: you see, people, something's happened in the world around, what's going to be with us? What's going to happen with us in the next decade or two? Nobody asked the question. So nobody answered that problem.'



In reality, crunch time is already here for the Resavica mines. They employ around 4,000 people and produce 500,000 to 600,000 tonnes of coal per year, of which more than half supplies the Nikola Tesla A and B and Morava coal plants. The rest is sold to industry, heating plants, households and schools. But despite annual subsidies of around EUR 40 million, the company operates with an annual loss of about EUR 15 million.⁷²

So far the government has been afraid to tackle this issue, but with the launch of the EU's Platform Initiative in Support of Coal Regions in Transition in the Western Balkans and Ukraine, it is high time to admit that the Resavica mines need to be closed and that this needs to be planned in a just and participatory manner. The EPS mines will operate for longer, but planning for their closure also needs to start immediately.

PERCEPTION OF LACK OF BENEFITS FOR SERBIA FROM ENERGY TRANSITION

One of our respondents drew attention to an additional challenge related to energy transition – that it may turn out to be something that benefits Western companies, rather than benefiting Serbia.

'In practice, [this means] no jobs in Serbia for new technologies, nothing from Serbia for new technologies, just payment to German, French and American companies.'

Indeed such a sentiment is often heard in the region, particularly in relation to wind power, because the leading manufacturers and operators tend to be from abroad. While it is true that countries like Germany and Spain have made use of the renewable energy boom to develop their industries, and that it is mainly large international companies that have the resources to spend years developing projects, wind farms are not the only element of a sustainable energy transition.⁷³

Serbia is also currently embroiled in controversy regarding a planned lithium mine and processing plants near the town of Loznica. Global mining giant Rio Tinto plans to extract the mineral jadarite, named after the Jadar River Valley in Serbia. Jadarite contains lithium and boron, both relatively rare and industrially important elements. Lithium is used for batteries, while boron is used in alloys, ceramic and glass.⁷⁴ As the price of battery storage drops and uptake of electric vehicles and intermittent renewable energy increases, lithium is massively gaining in importance as a key component for lithium-ion batteries.⁷⁵

Serbia therefore finds itself caught between an opportunity to cash in on its natural resources and the threat that other natural resources, including water and agricultural land, will be ruined in the process. Local people are fighting the plans, fearful that they will suffer the same fate as other communities where Rio Tinto has operated.⁷⁶ This

issue has the potential to further reinforce the idea that Serbia does not benefit from energy transition, especially if the government does not acknowledge the concerns raised.

It is up to the government, with the help of experts, to find ways to make the energy transition work for Serbia. Measures such as building retrofits, rooftop solar projects and digitalisation and smart grids have the potential to create significant employment, and there is no inherent reason why Serbia cannot make use of these and other opportunities.

This issue is in many ways a vicious circle. If the government does not truly believe in energy transition and does not put real effort into planning it, it is less likely to bring benefits for the country. Energy transition needs to be well thought through; the government needs to find the right models to bring benefits for Serbia through extensive public consultation, and needs to take ownership of the process. Without this, it will certainly be a piecemeal effort and the benefits will not be widely shared.

GEOPOLITICAL ISSUES

Serbia has long tried to maintain a balancing act between being an EU accession country and maintaining strong relations with Russia and China. This is strongly linked to Russia and China's support for Serbia with regard to Kosovo, so as one of our respondents pointed out, it is as much a matter of domestic policy as foreign policy.

'Foreign policy in Serbia is guided by some... internal goals... [The] head of our government is not turned towards our foreign partners, but toward the people in Serbia who will positively or negatively react to some steps and intervention on the foreign policy level.'

Both Russia and China have clear commercial interests in Serbia's energy sector, but Russia's are more clearly linked to a specific sector – gas. In the energy sector, China has so far mostly been associated with coal power plants, but it is equally able to offer other technologies as well, also being a world leader in solar and wind power. Thus, regionally speaking, China seems to be an enabler of new coal power plants rather than a strong driver, but Serbia's dependence on it for political support over Kosovo means it is particularly susceptible to accepting whatever China suggests, as evidenced by the unfavourable terms for the Kostolac B3 deal mentioned above.

'This balancing between EU as a major policy goal and strengthening investment, particularly Chinese investment in Serbia, which are completely out of the free competition framework, is influenced by the foreign policy and the efforts of the Serbian government to keep good relations with China and Russia and to balance, to play this balance game between EU and those two powers.'

LACK OF POLITICAL WILL TO COOPERATE WITHIN THE REGION AND TO OPEN MARKETS

Although the countries of the former Yugoslavia are relatively well interconnected physically, market opening is going slowly. Our respondents felt that the region's governments are able to cooperate on some issues, particularly specific infrastructure projects, but that regional integration is seen as a threat to EPS' position, and something to be delayed as long as possible.

'I see the regional governments and Serbian government as competitors, who will be the biggest powerhouse. So, they cooperate only if they're jointly developing some projects like hydropower plants on the Drina River or something like that.'

'I think there is political will..., I just don't think it's really a priority, if you know what I mean... I think it is like a free ride for a while. So, let's just try to postpone as long as we can.'

'We are small and isolated markets, and I think the situation is more or less similar in all countries, but it is specific in Serbia because the... public electricity company dominates in the electricity sector, and they are not ready to lose this monopoly position by strengthening the regional market... So this is a big issue – not among the first two or three reasons for halting the energy transition, but it is important, definitely.'

TECHNICAL DIFFICULTIES

Our respondents agreed that the main issues with the energy transition in Serbia are not technical, but rather political and legal. While technical changes will clearly be needed, for example to introduce more storage capacity, these are not considered to be a serious barrier.

'Wind... and solar power plants, they don't have constant output. That means variability is present... but there are a number of technologies which can help to solve that: batteries, storage technology..., demand response..., geography. You have wind in the North Sea and wind in the Mediterranean... at different times... And also a combination of sun and wind is good. Wind is in most cases dominant during the night, sun of course is dominant around noon. And... demand response – [t]hat means today's smart grid technology, smart infrastructure, enable us to control consumption.'

'[A] very good, if not the best, part of the industry is actually the grid. I think we inherited a superb system and we have people and they are really very up-to-date with participating in all the programmes and projects on the EU level of the TSOs [transmission system operators].'

WHAT IS NEEDED TO OVERCOME THE BARRIERS TO A SUSTAINABLE ENERGY TRANSITION IN SERBIA? WHICH ACTORS CAN PLAY A ROLE IN MOVING FORWARD THE SUSTAINABLE ENERGY TRANSITION IN THE COUNTRY?

The four overall directions which need to be covered are outlined below, together with different steps necessary to achieve them and an outline of which actors could play a particular role. However, there are also a number of horizontal needs which need to be pursued in order to build the necessary governance structure for better decision-making on energy issues, which are also outlined below. All these need to be pursued simultaneously, as even with the ongoing governance deficiencies, some steps forward can and are being made.

HORIZONTAL NEEDS

- Transparency, accountability and the rule of law is clearly a recurrent issue in the energy sector in Serbia, as well as in other sectors. Tackling this issue would clearly require a much longer analysis, but it needs to be taken into account at every step by the European Union and other international actors assisting Serbia to plan an energy transition, including by ensuring that only 'no regrets' investments are supported.
- Institutional planning and management capacity needs to be improved, with greater cooperation between sectors in order to develop up-to-date, holistic and realistic strategies.

'If we can manage to have that: to come to the level when decisions are taken on the basis of really looking into very realistic outcomes for each option, I think this is already a very big step because we know the numbers, we've run them so many times, you know, we just need the presentation of those numbers and storytelling.'

'And a very important conclusion here is that today's approach to the energy sector must be holistic. You have to look into electricity, into the cooling and heating sector, transport sector, storage technologies, you have to look in all kinds and you have to use the synergy between sectors. I'm 100 per cent sure that only such an approach can give a benefit to all.'

- Much stronger enforcement is needed of EU legislation already adopted under the Energy Community Treaty, including on State aid and environment. The Energy Community Secretariat is active on this but needs more tools at its disposal, e.g. ex ante notification and investigation powers on State aid cases, and more support from the European Commission.
- Donor support such as Instrument for Pre-accession Assistance (IPA) funds are very much needed for energy



transition, but must be clearly and transparently conditioned on legal compliance and making real progress.

- More efforts need to go into identifying ways to carry out an energy transition that Serbia can clearly benefit from, together with the academic and commercial sector, and in promoting these ideas to the public.

‘Smart grid applications and development of software applications with mobile technologies today, the whole digitalisation, all of those things open the way for fundamental changes in working habits, in working places, and if approached in the best way, the whole story can benefit small societies like Serbia. Of course, Germany will try to get 95 per cent of that pie, but I think the chances to take part of those benefits are not small. And for me, for... students, for people here to stay here, to work here. Very good opportunities.’

- Increased public dialogue on the energy transition is needed, to increase public understanding of, support for, and participation in the energy transition process. Ideally this should be led by the government, but unless it steps up its support for and leadership on the energy transition, civil society and experts will have to continue playing an outsized role.

‘Ordinary people should be capable of understanding that postponing the energy transition influences their quality of life. It influences their health. It influences the quality of the environment they are living in. It influences their economic positions. So knowledge barriers should be removed so ordinary people could understand that they... could economically benefit from energy transition. People don’t know and don’t understand why it is important.’

‘There is kind of prejudice about renewables, so I think we are actually now paying for bad PR that we inherited and some beliefs there. And how do we fight against that if people don’t know and they have misbeliefs? You have to bring them a lot of information, best cases, experiences from other countries that we can relate to. So not really that much in Germany, it’s not going to work – but Poland and other Western Balkan countries; Bulgaria, Romania, Croatia – that’s easier to relate to.’

coal or gas power and/or heat plants as these would become stranded assets well before the end of their lifetime.

In the meantime, the government and EPS need to review whether it would be more economic to continue or stop with Kostolac B3’s construction. A decarbonisation timeline is needed, as well as a coal phase-out date, to provide a framework for new investment decisions in the energy sector.

‘I think we need a brave political decision... We need to open the process of development of the National Energy and Climate Plan as a new framework for building a new energy strategy until 2030 and 2050.’

‘Without a focus on existing [coal power plants], the whole of these processes, unfortunately, will lead to a long, long, long term production of coal in Serbia.’

‘... The National Energy and Climate Plan, in my opinion, must be progressive. What does it mean? More and more renewables, the exact timing for phase out of thermal power plants – in 2028, A1, A2, A3 and A4 in Nikola Tesla plant should be out, and things like that – but we have to put it all in writing and later on to realise in practice. At the moment, I’m optimistic. Let us see in one year, we will know much more.’

Experts need to help decision makers and utilities understand how decarbonisation can work and why it is to their advantage to do it sooner than later, and civil society needs to continue making the case for a coal phase-out publicly, and to convey both the need for it and why it is ultimately something positive. One of our respondents remarked that a shift in opinion is already visible to some extent.

‘I think the whole atmosphere has changed a little bit. Not completely. But it has changed. Not only in engineering circles, but also in the whole society. And, you know, pollution in Belgrade, that is one of the drivers.’

Much more work is clearly needed to push the government to tackle legal breaches in the energy sector. The Energy Community is expected to continue pushing Serbia in this direction as well. Such work can be complemented by investigative journalists trying to understand in more depth what is going on in cases like Kostolac B’s failed desulphurisation, as well as by the EU sending strong messages regarding legal compliance.

Donors, particularly the EU, need to use the leverage of their funding to maximum effect. There is a lot of sensitivity around being seen to impose conditions around donor funding; however, it is a matter of credibility. If the EU provides funds for the development of a strategy, it only makes sense if that strategy is in line with EU policy. Two of our respondents mentioned that the EU-funded climate strategy does not examine any scenarios leading to carbon neutrality by 2050, which makes little sense. Also, if the EU provides funds for just transition, it only makes sense if the

MAIN DIRECTIONS FOR ENERGY TRANSITION

1. Update Serbia’s energy policies to prevent lock-in of unsustainable technologies, mainly new coal and gas power plants, and ensure legal compliance / timely closure of existing coal plants.

Serbia has quite a backlog of energy policymaking to catch up on, including finalising its climate change strategy, finalising its national spatial plan and speeding up its NECP development process. All of these need to exclude any new

country is not building new coal power plants and has committed to closing existing ones.

'[We need] democratic dialogue, transparency, more data, and also clear and non-double-edged messages from the European Union'

2. Ramp up reforms of EPS and develop a participatory plan to rapidly close the Resavica mines and secure a socially just transition of the affected regions. Utilise the opportunities offered by the Platform Initiative in Support of Coal Regions in Transition in the Western Balkans and Ukraine.

The government needs to carry out reforms in EPS and closure of the Resavica mines in consultation with the affected people, but also to show leadership and publicly stand behind the moves being made. Instead of hiding what it is doing, it needs to come up with a plan it believes in and put it into action. While international donors do play a role in both assisting and pressing Serbia to carry out reforms, the results will only be convincing if there is much greater buy-in among the Serbian public.

'[W]e have a new minister now of energy. So this can be good. I really sincerely hope that she sees this as an opportunity, what's happening with the Green Agenda. And they can really take it from there and totally shake the whole system. I've heard she's changing some directors in the utilities that were protected like ... endangered species. This is unheard of. So, I really hope she's going to have strength and the vision to complete the change, that this can be a major shift in policy: her coming, plus the Green Agenda, it kind of coincides at the same moment. So, I think it's going to be a perfect storm for us who are actually concerned about climate change and renewables and emissions.'

Civil society and the media need to track the progress of such initiatives, and push for adequate public participation in decision-making. For coal region transition, the initiatives ultimately need to be led by local people and local authorities and to be developed bottom-up, not top-down, so local authorities and people in the communities need to seize the opportunity to ensure their voices are heard.

3. Seize Serbia's energy savings potential and enable the deployment of sustainably-sited solar and wind projects, with a particular emphasis on prosumers and energy efficiency. Specific efforts need to be made in the heating and transport sectors, which are currently receiving much less attention than the power sector.

Reforming EPS and increasing its interest in wind and solar is crucial but is going to take time. In the meantime, other routes need to be found. Three directions look potentially promising:

- The quickest potential for energy transition to speed up may be on the small-scale level, via households and small and medium-sized enterprises via prosumer models.
- Large scale wind and especially solar projects are needed to show that these sources can make a serious contribution to the energy mix.
- Local governments can take the lead, particularly on energy efficiency, heating and transport, especially important given the high contribution of the residential sector to energy consumption in Serbia.

Generation of electricity by individual households, cooperatives or small businesses can be done in a number of ways, with varying levels of ability to feed electricity into the grid and to be rewarded for it. Even though legislation on prosumers is still under development, there is still potential to move forward with such systems.

'The electricity costs in Serbia are very low for households, but pretty high for the commercial sector. So, I think that the small scale and middle commercial sector could be a champion of small and middle scale renewables.'

'[Citizen energy] can contribute a lot to the total energy mix and to the whole atmosphere in the energy sector. And it's important. Some companies... approached asking me, can we reduce our bills with panels on our roofs? Yes, they can. That is also good for Serbia... [T]hey can forget about permission from the distribution company, distribution system operator. They can on their own decide to produce and to consume electricity within their premises. So, it's not so complicated. And this at the moment, you know, technology and solar technology, they are not expensive.'

Serbia's new Law on Renewable Energy⁷⁷ should bring greater levels of certainty for investors in renewable energy as to what support to expect. The law covers both larger projects and for the first time also sets up a legal framework for prosumers. But in order to make more progress, certainly more capacity in the Ministry of Mining and Energy needs to be dedicated to renewable energy and especially energy efficiency.

'Renewables need to happen – they are happening, but this can be 10 times more than what we have today... It's not only about feed-in tariffs – this is where people are wrong – if the government has a green policy, this is more a secure environment for investors to come and invest... We still have one of the highest costs of capital. Money costs a lot in Serbia because we are a risky country. So, they need to be very clear.'

'The other [need] is the removal of administrative and bureaucratic barriers for the spread of the solar and wind renewable energy market... Those investors which are interested in investing in renewables, they can find the money. They don't have to ask the state for the money.'



'[We are now in the] second investment cycle, we have emerging projects. We still need the government to... increase the cap [on wind and solar projects that can be connected to the grid] without basically giving incentives. If they want to have something quick, they can say, "Okay, in the next two years we can connect 500 megawatts, but we are not going to give you any incentive". That can also be an option.'

Apart from the issue of allowing more renewables to be connected to the grid, one respondent drew our attention to a current prohibition on building solar farms on state land, which makes it virtually impossible to build larger plants due to fragmentation of private land ownership. This means potential investors have to negotiate with tens of households, with a high likelihood that at least some of them will not consent.

'For solar, until they resolve these bylaws about agricultural land and state ownership, it's unlikely they will have large projects. Maybe there will be a random one or two, where people get to resolve this riddle – puzzle with the 50 or hundreds of different owners to connect... This just looks terribly complicated. But solar should be easy and should be quick. For solar, it's the shortest time to market. So, if you want to really have results very soon, they should favour solar by all means.'

While this analysis did not aim to examine legal barriers, but rather the underlying reasons for such barriers, this one seems major enough to warrant mentioning specifically.

Local authorities could play a particularly active role in the heating and public transport sectors, as they have a greater role in this field than in electricity, and improvements can both save energy and decrease air pollution.

Given the high share of households in energy consumption, energy efficiency and renewable heating needs to be given a high priority. Local authorities can and must incentivise deep renovation of buildings for energy efficiency, as well as increasing the use of solar hot water and heat pumps. The district heating sector in particular is undergoing interesting developments, with low-temperature heating networks and heat pumps offering a wider range of heat sources than previously available.

Several Serbian cities are working together with the EBRD to develop renewable district heating systems and increase energy efficiency, including Novi Sad, Šabac, Pančevo and Valjevo.⁷⁸ In 2019, the Šabac district heating company signed a loan contract with the EBRD to improve energy efficiency in residential buildings.⁷⁹ While we do not have in-depth information about this project, on the face of it this looks like a very promising development. If the project is a success, it needs to be replicated much more widely.

Improvement of and electrification of public transport should also be prioritised by local authorities, as well as measures for non-motorised transport, i.e. walking and cy-

cling. It is crucial to ensure that transport measures are targeted where they will benefit the greatest number of people, particularly those with lower income.

'So these... measures which are right now on the table to give EUR 2 500 for the buying of a new electric car are actually just supporting the richest part of the population because who has EUR 30 000 to buy one car and to get EUR 2 500 for support? So, it's more symbolic and it's not really striving toward electrification.'

Donors have in recent years become more and more interested in the potential for sustainable cities, so initiatives such as the EBRD's Green Cities⁸⁰ may offer support, as long as the city authorities approach planning with an open mind and willingness to include the public in decision-making. Unfortunately this has not always been the case so far, and the Bank needs to consider how much it is willing to let the 'Green Cities' be stretched and to prioritise work with truly dedicated cities.

4. Avoid being distracted by unsustainable energy sources such as hydropower in sensitive areas, fossil gas, biofuels, waste incineration, large-scale use of forest biomass, or unproven/unavailable technologies such as renewable hydrogen.

Avoiding unsustainable or unproven solutions is a crucial component of energy transition. As we saw above, so far when discussing alternatives to coal, Serbia's decision makers have tended to choose energy sources which most closely resemble those being replaced – gas, biomass or waste to replace coal; biofuels to replace petrol or diesel; or hydrogen or renewable gas to replace fossil gas.

Hydropower, as one of the traditional electricity sources in the region, remains popular among decision makers. Given the widespread public rejection of small hydropower, the new Minister for Energy is now promoting the idea of building medium-large hydropower, including the controversial upper Drina projects planned together with Republika Srpska,⁸¹ which would dangerously fragment the currently largest habitat of the endangered Danube Salmon. While views differ on whether further hydropower development should be pursued in Serbia at all, projects in such sensitive areas certainly need to be avoided.

The question of which solutions are suitable for a particular situation is often complicated by various lobby groups promoting their own product as the solution. Civil society organisations and other experts play an important role in explaining the pros and cons to decision makers and the public and advocating for suitable solutions. Even where a specific technology may in principle be acceptable, civil society groups need to be involved in monitoring the approval process to ensure legal compliance.

Such work can be complemented by investigative journalists trying to understand what is going on behind the scenes in

the decision-making, as well as by the Energy Community Secretariat and EU sending strong messages regarding legal compliance.

The EU also needs to be a lot clearer in the messages it is sending regarding gas. While it has clearly taken up the message that a coal phase-out is needed, its support for gas infrastructure via the selection of the 2020 Projects of Energy Community Interest (PEICs) list, in the Economic and Investment Plan for the Western Balkans, and in various speeches, is sending the wrong message about gas' compatibility with decarbonisation. The same goes for donors like the EBRD, who have openly advocated to expand the use of gas in the region, despite the fact this would entail significant investments in the opposite direction of decarbonisation.⁸²

'I would say that the strengthening of gas connection and improvement of utilisation of gas, it's a kind of false solution, if not balanced by strengthening the renewables market, because Serbia strengthened its ties with Russia and dependence on imported gas.'

The same goes for technologies such as renewable hydrogen and renewable gas, which are not yet widely available and are only ever likely to be sufficient to contribute to decarbonisation of the harder to abate sectors. To be responsible, the international community needs to take a precautionary approach and avoid promoting unproven technologies or those with high environmental risks, and encourage the region's authorities to pay more attention to energy efficiency and low-risk technologies.

ENDNOTES

- 1 Statistical Office of the Republic of Serbia, Estimated number of population in the Republic of Serbia (2019), 1 July 2020; <https://www.stat.gov.rs/en-us/vesti/20200701-procenjen-broj-stanovnika-2019/?s=1801>.
- 2 EPS, Termoelektrane, <http://www.eps.rs/lat/Poslovanje-EE/Stranice/Termoelektrane.aspx>, last accessed 17 February 2021.
- 3 For more information, see: <https://bankwatch.org/project/kostolac-lignite-power-plant-serbia>.
- 4 Radomir Ralev, Gazprom postpones commissioning of Serbian CHP to 2021 – report, *SEE News*, 7 October 2020; <https://seenews.com/news/gazprom-postpones-commissioning-of-serbian-chp-to-2021-report-716328>.
- 5 Eurostat, Share of energy from renewable sources (online data code: NRG_IND_REN), last updated 3 February 2021; https://ec.europa.eu/eurostat/databrowser/view/nrg_ind_ren/default/table?lang=en.
- 6 Energy Community Secretariat, Annual Implementation Report 2020, November 2020; <https://www.energy-community.org/implementation/IR2020.html>.
- 7 Government of Serbia, Regulation on Privileged Producers, Official Gazette No. 8/13.
- 8 Balkan Green Energy News, Serbia reaches 500 MW quota for wind power, *Balkan Green Energy News*, 27 April 2016; <https://balkan-greenenergynews.com/serbia-reaches-500-mw-quota-for-wind-power/>.
- 9 For details, see CEE Bankwatch Network, Who pays, who profits?, *CEE Bankwatch Network*, September 2019; <https://bankwatch.org/wp-content/uploads/2019/09/who-pays-who-profits.pdf>.
- 10 See for example Igor Todorović, Environmentalist groups unite to protest small hydropower, pollution in Serbia, *Balkan Green Energy News*, 15 June 2020, <https://balkan-greenenergynews.com/environmentalist-groups-unite-to-protest-small-hydropower-pollution-in-serbia/>, and Mark Armstrong, Villagers in Serbia tear out hydropower pipes in protest over river, *Euronews*, 16 August 2020; <https://www.euronews.com/2020/08/16/villagers-in-serbia-tear-out-hydropower-pipes-in-protest-over-river>.
- 11 There were 113 new hydropower plants in the incentives system in 2019, plus three older EPS plants, according to calculations based on EPS Supply: Overview of contracts with privileged producers, last updated October 2020. In addition to these there are 15 more EPS small hydropower plants that do not appear to receive incentives; <http://www.eps.rs/cir/snabdevanje/Documents/14102020-Pre-ugovora-sa-povlasenim-privremeno-povlasenim-proizvodjaca-ee.pdf>.
- 12 Energy Agency of the Republic of Serbia (AERS), Energy Agency Annual Report 2019, May 2020; [http://www.aers.rs/Files/Izvestaji/Godisnji/Eng/AERS Annual Report 2019.pdf](http://www.aers.rs/Files/Izvestaji/Godisnji/Eng/AERS%20Annual%20Report%202019.pdf).
- 13 International Energy Agency, Total energy supply (TES) by GDP, Serbia, 1990–2018, *IEA Data and Statistics*, <https://www.iea.org/data-and-statistics?country=SERBIA&fuel=Energy%20transition%20indicators&indicator=TPESbyGDPGDP>, last accessed 3 December 2020.
- 14 International Energy Agency, Share of total final consumption (TFC) by sector, Serbia, 1990–2018, *IEA Data and Statistics*, <https://www.iea.org/data-and-statistics?country=SERBIA&fuel=Energy%20consumption&indicator=TFCbySector>, last accessed 3 December 2020.
- 15 Odluka o utvrđivanju energetskog bilansa Republike Srbije za 2021. godinu, Službeni glasnik Republike Srbije, br. 156/2020; http://demo.paragraf.rs/demo/combined/Old/t/t2020_12/SG_156_2020_009.htm.
- 16 Klaus Englemann et al., Improving the performance of District Heating Systems in Central and Eastern Europe, *Keep Warm project*, 29 December 2020; https://keepwarmeurope.eu/fileadmin/user_upload/Resources/Promotional_materials/WP3-Keep_Warm_DHS-Markets.pdf.
- 17 The Statistical Office of the Republic of Serbia publishes data such as the Statistical Release: Total transport of passengers and goods, 2018 and 2019 report, however information about passenger kilometres by mode in urban public transport is missing so no overall modal split can be presented; <https://publikacije.stat.gov.rs/G2020/Pdf/G20201174.pdf>.





- 18 The Statistical Office of the Republic of Serbia, Statistical Release: Total transport of passengers and goods, 2018 and 2019, 29 June 2020; <https://publikacije.stat.gov.rs/G2020/Pdfe/G20201174.pdf>.
- 19 Vladimir Spasić, Resavica coal mines never break even despite massive subsidies, *Balkan Green Energy News*, 11 February 2021; <https://balkangreenenergynews.com/resavica-coal-mines-never-break-even-despite-massive-subsidies/>.
- 20 Ioana Ciuta, Pippa Gallop, The great coal jobs fraud, 2018 update, *CEE Bankwatch Network*, June 2018; <https://bankwatch.org/wp-content/uploads/2018/06/Job-study-june-2018-update-ENG-CEE-Bank-watch.pdf>.
- 21 Gazprom Neft owns 56.15 per cent of NIS' shares, the Republic of Serbia owns 29.87 per cent and the remaining portion belongs to individuals, employees, former employees and other minority shareholders. For more information see: NIS, Company Information; <https://www.nis.eu/en/company-information/>.
- 22 Energy Agency of the Republic of Serbia (AERS), Energy Agency Annual Report 2019, May 2020; <http://www.aers.rs/Files/Izvestaji/Godisnji/Eng/AERS Annual Report 2019.pdf>.
- 23 Its shareholders are Gazprom (50 per cent), PE Srbijagas (25 per cent) and Central ME Energy and Gas, Vienna (25 per cent).
- 24 Eurostat: Energy Dependence %, Table T2020_RD320, last updated 8 February 2021; https://ec.europa.eu/eurostat/databrowser/view/t2020_rd320/default/table?lang=en.
- 25 Eurostat: Energy Dependence %, Table T2020_RD320, last updated 8 February 2021; https://ec.europa.eu/eurostat/databrowser/view/t2020_rd320/default/table?lang=en.
- 26 Regional Cooperation Council, Sofia Declaration on the Green Agenda for the Western Balkans, 10 November 2020; <https://www.rcc.int/docs/546/sofia-declaration-on-the-green-agenda-for-the-western-balkans-rn>.
- 27 Igor Todorović, Serbia to spend EUR 1.5 billion in 2021 on energy efficiency, to cut pollution, *Balkan Green Energy News*, 16 December 2020; <https://balkangreenenergynews.com/serbia-to-spend-eur-1-5-billion-in-2021-on-energy-efficiency-to-cut-pollution/>.
- 28 Insajder, Mihajlović: Struja neće skoro poskupeti, neophodne reforme u EPS-u i Srbijagasu, *Insajder*, 17 January 2021; <https://insajder.net/sr/sajt/vazno/22291/>.
- 29 Biomass can lead to degradation of forests if not carefully managed, but its greenhouse gas impacts are also attracting increased attention. See for example: WWF, 500+ scientists tell EU to end tree burning for energy: "Regrowth takes time the world does not have to solve climate change", they write, 11 February 2021, <https://www.wwf.eu/?uNewsID=2128466>. Gas is a fossil fuel that will have to be phased out by 2050, so increasing its use makes little sense at this stage. And the impacts of hydropower on rivers, especially in sensitive areas, are of particular concern in the countries of the Western Balkans which are biodiversity hotspots but mostly do not apply the EU Habitats, Birds and Water Framework Directive.
- 30 Republic of Serbia Ministry of Mining and Energy, Energy Sector Development Strategy of the Republic of Serbia for the period by 2025 with projections by 2030, 2016; <http://meemp-serbia.com/wp-content/uploads/2018/09/Legislative-Energy-Sector-Development-Strategy-of-the-Republic-of-Serbia-for-the-period-by-2025-with-projections-by-2030.pdf>.
- 31 For more information, see <https://bankwatch.org/project/kolubara-b-lignite-fired-power-plant-serbia>.
- 32 Letter from the Minister for Mining and Energy to Elektroprivreda Srbije asking the company to halt activities on the project, 20 May 2021; <https://www.reri.org.rs/wp-content/uploads/2021/05/Dopis-EPS-MRE.pdf>.
- 33 Government of Serbia, Implementation Program of the Energy Sector Development Strategy of the Republic Of Serbia for Period to 2025 Year With Projections to 2030, the Year of the Period 2017 to 2023 Year; <http://meemp-serbia.com/wp-content/uploads/2018/09/Legislative-Program-for-the-Implementation-of-Energy-Strategy-for-the-period-from-2017-until-2023.pdf>.
- 34 Energy Community Secretariat, WB6 Energy Transition Tracker, February 2021; <https://www.energy-community.org/regionalinitiatives/WB6/Tracker.html>.
- 35 For more details, see Damir Miljević, Investments into the past: An analysis of Direct Subsidies to Coal and Lignite Electricity Production in the Energy Community Contracting Parties 2018–2019, *Energy Community*, December 2020; <https://www.energy-community.org/news/Energy-Community-News/2020/12/02.html>.
- 36 Ioana Ciuta, Pippa Gallop, and Davor Pehchevski, Comply or Close, 2020 Update, *CEE Bankwatch Network*, June 2020; https://bankwatch.org/wp-content/uploads/2020/06/COMPLY-OR-CLOSE-How-Western-Balkan-coal-plants-breach-air-pollution-laws-and-what-governments-must-do-about-it-2020-Update_final_eng.pdf.
- 37 Marija Janković, Drmno i Stari Kostolac: Život u selu u Srbiji u kojem pucaju kuće, *BBC Serbia*, 26 November 2019, <https://www.bbc.com/serbian/lat/srbija-50402081>; Zvezdan Kalmar, Serbian mining company ignores desperate calls for compensation while Kolubara mine is reaching family houses, *CEE Bankwatch Network*, 8 May 2017, <https://bankwatch.org/blog/serbian-mining-company-ignores-desperate-calls-for-compensation-while-kolubara-mine-is-reaching-family-houses>; Ksenija Petovar, Anketa domaćinstava u naselju Drmno, *CEKOR*, June 2016, <https://bankwatch.org/wp-content/uploads/2016/06/Anketa-Drmno-13June2016.pdf>.
- 38 Vladimir Spasić, State Audit Institution: Grčić illegally serving as acting director of EPS, *Balkan Green Energy News*, 19 January 2021; <https://balkangreenenergynews.com/state-audit-institution-grcic-illegally-serving-as-acting-director-of-eps/>.
- 39 It is not clear whether this included only dividends or also other payments. Republika Srbija Fiskalni Savet, АНАЛИЗА ПОСЛОВАЊА И ПРЕПОРУКЕ ЗА РЕФОРМУ И ПОВЕЋАЊЕ ИНВЕСТИЦИЈА ЕПС-А, November 2019; http://fiskalnisavet.rs/doc/analize-stavovi-predlozi/2019/Analiza_poslovanja_i_preporuke_za_reformu_i_povecanje_investicija_EPS-a.pdf.
- 40 Elektroprivreda Srbije, Electric Power Industry of Serbia 2019 Environmental Report, May 2020; <http://www.eps.rs/eng/Documents/energyEfficiency/PE EPS Report on Environmental State 2019.pdf>.
- 41 The World Bank has been providing support for EPS restructuring via two Development Policy Loans. Both projects have now finished. More information is available at: <https://projects.worldbank.org/en/projects-operations/project-detail/P155694> and <https://projects.worldbank.org/en/projects-operations/project-detail/P161184>.
- 42 The EBRD has supported EPS since the early 2000s with various loans, and is currently engaged in a project specifically aimed at restructuring. For more information, see: <https://www.ebrd.com/work-with-us/projects/psd/eps-restructuring.html>.
- 43 This has its logic – if the company's close links to the state are weakened and its other shareholders demand a profit, its management will have to improve. But the idea of part-privatising EPS is anathema to many people in the country. A legacy of failed and corruption-ridden privatisations across southeast Europe has largely poisoned the idea of privatising public companies.
- 44 According to the Government of the Republic of Serbia, Economic Reform Plan 2019–2021 (https://ec.europa.eu/neighbourhood-enlargement/sites/default/files/serbia_erp_2019-2021.pdf), some progress has been made with reducing over-employment, but at the same time, Serbia's Fiscal Council reports that salaries were increased from 2015–2018, in breach of the law. Source: Republic of Serbia Fiscal Council, EPS Performance Analysis and Recommendations for Investments Increase, January 2020; http://www.fiskalnisavet.rs/doc/eng/FC_Summary_EPS_Performance_analysis_and_recommendation_for_investments_increase.pdf.
- 45 Tony Verheijen, Country Manager for Serbia, EPS Unwillingness to Reform: Should Serbian Citizens Continue to Pay the Price, *B92 Blog*, 4 July 2016; <https://www.worldbank.org/en/news/opinion/2016/07/04/EPS-unwillingness-to-reform-Should-Serbian-citizens-continue-to-pay-the-price>.
- 46 As of August 2020, the government had pledged to the IMF that it would, among others, change the legal status of EPS to a joint stock company in 2021 and conduct an assessment of electricity tariffs in order to ensure full cost recovery, leading to a tariff adjustment by the end of September 2020. Republic of Serbia Programme Statement to the IMF, August 2020, in IMF: Republic of Serbia Fourth Review under the Policy Coordination Instrument, IMF Country Report No.20/270, August 2020; <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjcn57AlvTuAhWDxIsKHxYND-1kQfjABegQIARAD&url=https%3A%2F%2Fwww.imf.org%2F-%2F-media%2FFiles%2FPublications%2FCR%2F2020%2FEnglish%2F1SR-BEA2020001.ashx&usq=AOvVaw1DzNorOLhD9jvM7FVSGN1>.



- 47 Republic of Serbia Fiscal Council, EPS Performance Analysis and Recommendations for Investments Increase – Summary, January 2020; http://www.fiskalniasvet.rs/doc/eng/FC_Summary_EPS_Performance_analysis_and_recommendation_for_investments_increase.pdf.
- 48 Public Enterprise Elektroprivreda Srbije Beograd, Consolidated Financial Statements for the Year Ended 31 December 2019 and Independent Auditor's Report, 24 August 2020; http://www.eps.rs/eng/Documents/JP_EPS consolidated report 2019.pdf.
- 49 Some improvements were noted in the 2020 report, but still a fifth of decisions in parliament were made using urgent procedures during 2019 and early 2020. Commission staff working document, Serbia 2020 Report Accompanying the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions 2020 Communication on EU Enlargement Policy, 6 October 2020; https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/serbia_report_2020.pdf.
- 50 On 20 August 2009 the Serbian government signed a Memorandum of Understanding with the Chinese government on economic and technical cooperation in the field of infrastructure. Annex 2 to this agreement was signed on 26 August 2013 and includes a clause in Article 5 that (our translation): '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.'
- 51 Republic of Serbia, Zakon o potvrđivanju ugovora o zajmu za kredit za povlašćenog kupca za drugu fazu paket projekta Kostolac-B power plant project između Republike Srbije, koju predstavlja Ministarstvo Finansija, kao zajmodavca, January 2015; <http://www.parlament.gov.rs/upload/archive/files/lat/pdf/zakoni/2015/37-15 lat.pdf>.
- 52 Zvezdan Kalmar, Kostolac B3 lignite plant loan agreement bypasses public debate and contains unacceptable conditions, *CEE Bankwatch Network*, 16 January 2016; <https://bankwatch.org/blog/campaign-update-kostolac-b3-lignite-plant-loan-agreement-bypasses-public-debate-and-contains-unacceptable-conditions>.
- 53 Eleanor Rose, New China-backed coal plants on EU's borders could saddle states with massive carbon costs, *Unearthed*, 14 January 2020; <https://unearthed.greenpeace.org/2020/01/14/china-belt-and-road-coal-plants-in-bosnia-serbia-balkans/>.
- 54 For more details on the timeline, see CEKOR and ClientEarth, Communication to the Aarhus Convention Compliance Committee on phase II of the Kostolac B Power Project and Serbia's failure to comply with Article 6 and Article 9 of the Convention, 27 January 2020; https://unece.org/fileadmin/DAM/env/pp/compliance/C2020-179_Serbia/Communication_from_Communicant/frClientEarthCEKOR_Serbia_27.01.2020_Redacted.pdf.
- 55 For a fuller account of this case, see Ioana Ciuta, Pippa Gallop, Davor Pehchevski, Comply or Close, 2020 Update, *CEE Bankwatch Network*, June 2020; https://bankwatch.org/wp-content/uploads/2020/06/COMPLY-OR-CLOSE-How-Western-Balkan-coal-plants-breach-air-pollution-laws-and-what-governments-must-do-about-it-2020-Update_final_eng.pdf.
- 56 RERI, Neistiniti navodi Zorane Mihajlović: Emisije sumpor-dioksida iz termoelektrane Kostolac B su gotovo 12 puta veće od dozvoljenih Nacionalnim planom za smanjenje emisija, April 2021; <https://www.reri.org.rs/neistiniti-navodi-zorane-mihajlovic-emisije-sumpor-dioksida-iz-termoelektrane-kostolac-b-su-gotovo-12-puta-vece-od-dozvoljenih-nacionalnim-planom-za-smanjenje-emisija/>.
- 57 Dina Đorđević, Most money for EPS and companies connected to Nikola Petrović again, *CINS*, 19 April 2018, <https://www.cins.rs/en/most-money-for-eps-and-companies-connected-to-nikola-petrovic-again/>; Dina Đorđević, Green Ideals, Dirty Energy: The EU-backed Renewables Drive That Went Wrong, *Balkan Insight*, 15 December 2020; <https://balkaninsight.com/2020/12/15/green-ideals-dirty-energy-the-eu-backed-renewables-drive-that-went-wrong/>.
- 58 Politika, Antić: Vlada formirala radnu grupu za TE „Kolubara B”, *Politika*, 30 August 2018; <http://www.politika.rs/sr/clanak/410268/Ekonomija/Antic-Vlada-formirala-radnu-grupu-za-TE-Kolubara-B>.
- 59 Legislation to enable prosumers is being developed as of February 2021 but the outcome is as yet unclear.
- 60 In 2020 the European Commission's Enlargement Report drew attention to this specific issue: 'The non-compliance of environment impact assessment (EIA) legislation with other laws, especially with the law on planning and construction according to which the impact assessment is carried out after the issuance of the construction permit, needs to be urgently addressed.' European Commission, Commission Staff Working Document, Serbia 2020 Report Accompanying the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions 2020 Communication on EU Enlargement Policy, 6 October 2020; https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/serbia_report_2020.pdf.
- 61 Stefan Šipka, Izmene Zakona o proceni uticaja na životnu sredinu: Šta se još može učiniti?, *Centar za Evropske Politike*, 14 August 2018, <https://cep.org.rs/blogs/izmene-zakona-o-proceni-uticaja-na-zivotnu-sredinu-sha-se-jos-moze-uciniti/>.
- 62 Vladimir Spasić, Serbia adopts four laws on energy, mining, *Balkan Green Energy News*, 21 April 2021; <https://balkangreenenergynews.com/serbia-adopts-four-laws-on-energy-mining/>.
- 63 Ioana Ciuta, Pippa Gallop, and Davor Pehchevski, Comply or Close, 2020 Update; https://bankwatch.org/wp-content/uploads/2020/06/COMPLY-OR-CLOSE-How-Western-Balkan-coal-plants-breach-air-pollution-laws-and-what-governments-must-do-about-it-2020-Update_final_eng.pdf.
- 64 Ioana Ciuta, Pippa Gallop, and Davor Pehchevski, Comply or Close, 2020 Update; https://bankwatch.org/wp-content/uploads/2020/06/COMPLY-OR-CLOSE-How-Western-Balkan-coal-plants-breach-air-pollution-laws-and-what-governments-must-do-about-it-2020-Update_final_eng.pdf.
- 65 Available at <https://www.mgsi.gov.rs/sites/default/files/JP%20ELEKTRO-PRIVREDA%20SRBIJE%20PR%20BR%20351-03-01606-2015-07.pdf>.
- 66 Elektroprivreda Srbije, Electric Power Industry of Serbia 2018 Environmental Report, May 2019; <http://www.eps.rs/eng/Documents/energyEfficiency/The PE EPS Environmental Report 2018.pdf>.
- 67 RERI, Neistiniti navodi Zorane Mihajlović: Emisije sumpor-dioksida iz termoelektrane Kostolac B su gotovo 12 puta veće od dozvoljenih Nacionalnim planom za smanjenje emisija, April 2021; <https://www.reri.org.rs/neistiniti-navodi-zorane-mihajlovic-emisije-sumpor-dioksida-iz-termoelektrane-kostolac-b-su-gotovo-12-puta-vece-od-dozvoljenih-nacionalnim-planom-za-smanjenje-emisija/>.
- 68 Riverwatch, Civil disobedience: Activists remove pipes of illegal hydropower plant in Serbia! 17 August, 2020; <https://riverwatch.eu/en/balkanrivers/news/civil-disobedience-activists-remove-pipes-illegal-hydropower-plant-serbia>.
- 69 Energy Community Secretariat, Two billion euros burnt in coal subsidies by Energy Community Contracting Parties in 2015–2019, 2 December 2020; <https://energy-community.org/news/Energy-Community-News/2020/12/02.html>.
- 70 Government of the Republic of Serbia, Economic Reform Plan 2019–2021; https://ec.europa.eu/neighbourhood-enlargement/sites/default/files/serbia_erp_2019-2021.pdf.
- 71 Danas, Vučić: Novi otkop u Kolubari obezbeđuje ugalj za narednih 60 godina, *Danas*, 14 May 2020; <https://www.danas.rs/politika/vucic-novi-otkop-u-kolubari-obezbedjuje-ugalj-za-narednih-60-godina/>.
- 72 Vladimir Spasić, Resavica coal mines never break even despite massive subsidies, *Balkan Green Energy News*, 11 February 2021; <https://balkangreenenergynews.com/resavica-coal-mines-never-break-even-despite-massive-subsidies/>.
- 73 It should be noted that Siemens operates a wind turbine factory (<https://new.siemens.com/rs/sr/kompanija/press/siemens-fabrika-proizvela-vise-od-25000-generatora.html>) in Subotica in Serbia. Other than the fact that this does clearly generate some employment, we are not able to comment on the adequacy of other benefits for Serbia, for example from taxes.
- 74 Zvezdan Kalmar, Jadar Lithium Mine, Serbia – A Raw Deal ICT metal mining case study, *CEKOR, CEE Bankwatch Network, and the Coalition for Sustainable Mining*, March 2021; <https://bankwatch.org/wp-content/uploads/2021/03/Jadar-Lithium-Mine-A-Raw-Deal-ICT-metal-mining-case-study.pdf>.
- 75 Cheryl Katz, In Boost for Renewables, Grid-Scale Battery Storage Is on the Rise, *Yale Environment 360*, 15 December 2020; <https://e360.yale.edu/features/in-boost-for-renewables-grid-scale-battery-storage-is-on-the-rise>.



- 76 See for example Reuters, Rio Tinto's sacred Indigenous caves blast scandal, *Reuters*, 3 March 2021, <https://www.reuters.com/article/us-australia-mining-indigenous-idUSKCN2AV00U>; BBC, Rio Tinto: Mining giant accused of poisoning rivers in Papua New Guinea, *BBC*, 29 September 2020, <https://www.bbc.com/news/world-asia-54340227>; Maya Kalcheva, Oyu Tolgoi Mine, Mongolia A Raw Deal – ICT metal mining case study, *CEE Bankwatch Network and OT Watch*, February 2021, <https://bankwatch.org/wp-content/uploads/2021/02/Oyu-Tolgoi-Mine-A-Raw-Deal-ICT-metal-mining-case-study.pdf>.
- 77 Vladimir Spasić, Serbia adopts four laws on energy, mining, *Balkan Green Energy News*, 21 April 2021; <https://balkangreenenergynews.com/serbia-adopts-four-laws-on-energy-mining/>.
- 78 Balkan Green Energy News, EBRD supports Western Balkans in decarbonizing district heating and cooling systems, improving energy efficiency in buildings, *Balkan Green Energy News*, 11 March 2020; <https://balkangreenenergynews.com/ebrd-supports-western-balkans-in-decarbonizing-district-heating-and-cooling-systems-improving-energy-efficiency-in-buildings/>.
- 79 EBRD, Šabac Buildings Energy Efficiency Project Summary Document, 9 April 2019; <https://www.ebrd.com/work-with-us/projects/psd/sabac-buildings-energy-efficiency.html>.
- 80 See <https://www.ebrdgreencities.com/> for more details.
- 81 N1, Mihajlović: Očekuje nas godina velikih promena u energetsom i rudarskom sektoru, *N1*, 3 January 2021; <https://rs.n1info.com/biznis/mihajlovic-ocekuje-nas-godina-velikih-promena-u-energetskom-i-rudarskom-sektoru/>.
- 82 Jakov Milatović and Damin Chung, Kicking the coal habit in the Western Balkans, *EBRD*, 3 December 2018; <https://www.ebrd.com/news/2018/kicking-the-coal-habit-in-the-western-balkans.html>.



ANNEX I – SELECTED TOPICS FOR FURTHER INVESTIGATION BY JOURNALISTS, NGOS AND INDEPENDENT EXPERTS

As part of the interviews we asked our respondents if there are outstanding topics that they consider would benefit from being examined by investigative journalists. We received a broad range of answers, including some that we consider more suitable for follow-up by NGOs and some which would certainly need input from energy experts and/or economists. Some of our respondents particularly underlined that it is important to increase journalists' level of knowledge about the energy sector in order to increase the quality of reporting and to make sure the issues raised are really on the mark.

Below is a selection of the topics by country, based on respondents' input and our own experience.

ALBANIA

- The current status of concession contracts and energy permits in the hydropower sector – which ones have been cancelled and which not.
- The process of how concessions for specific projects were awarded – e.g. issues with tenders and auctions, unsolicited proposals in the energy sector. In particular, concessions awarded just prior to elections need examining.¹

BOSNIA AND HERZEGOVINA

- Economic problems and corruption in the coal mining sector – why exactly is the sector in such a poor state?
- Over-employment in the coal mining sector – demystifying the image of the coal miner that is going underground for the sake of the electricity supply and showing who is really employed for what – e.g. in the administration, driving trucks, etc. and investigating how restructuring is going compared to what has been promised.
- Profitability, or lack thereof, of coal-fired thermal power plants.
- Why is it so difficult to become a prosumer? What are the obstacles, what has to be removed, what it costs and so on?
- Planned waste incinerators – who are the companies involved, what is planned exactly, what other solutions would be possible instead?
- Biomass heating in practice – benefit or false solution?
- Performance of international donor-financed projects.

BULGARIA

- Relationships between politicians and energy oligarchs.
- The problems of energy poverty and solutions.
- State aid for bankrupt state-owned enterprises and other unsustainable energy.
- How are government plans for mega-projects selected?
- Showcasing of best practices.
- Political crisis as an opportunity for change in the energy sector. Two parliamentary elections are taking place in three months (April-July) and the ruling party lost the April election.

CROATIA

- Companies which receive feed-in tariffs, whether they fulfilled the legal conditions to obtain them and whether they are operating in line with their permitting conditions.
- Croatia's new renewables incentive scheme and how it is being implemented.
- Who is really behind Croatia's interests in importing LNG?
- The Prvo plinarsko drustvo (First Gas Society of Croatia (PPD)) imports Russian gas to Croatia and has seen enormous growth in recent years.² What are the reasons for its sudden success?

KOSOVO

- Renewable energy incentives, who is receiving them, how, and whether they are complying with their permit conditions. Some research has been done on solar and hydropower and this should continue and be expanded.
- Electricity consumption in the north of Kosovo.
- The Energy Efficiency Fund, how its funds are spent and whether they bring real improvements.
- Pros and cons of new technologies such as hydrogen, battery storage, etc.

- Public opinion about climate change – do they prioritise tackling climate change and pollution reduction? Are they willing to pay more for these issues to be addressed? Do they notice the impact of a changing climate in their daily lives?
- Demystifying renewables – do they really cost more when health and climate costs are taken into consideration?
- How is KEK, the Kosovo Electricity Corporation, managed, how does it select contractors and how does the Ministry of Economy and Environment oversee it?
- How has the Energy Regulatory Commission granted licences? Has it always followed the rules?
- How has the Ministry of Economy and Environment granted licences for energy projects? Has it always followed the rules?

MONTENEGRO

- Corruption in the fossil fuel industry and renewable energy projects.³
- Optimism bias in energy project planning.

NORTH MACEDONIA

- What is behind the country's increased interest in gas?
- What is the current role of former Deputy Prime Minister Kocho Angjushev and how many contracts or other benefits from the government have his companies received in recent years?

ROMANIA

- People's expectations and stories from the coal regions.
- Politics in the coal regions – what are politicians promising, how are people voting, and what is being fulfilled or not?
- Gas boilers – costs and benefits of the policy to install them in every household, and whether this has been properly planned.
- Lack of competition on the balancing market where for years two actors have dominated, leading to high prices.
- Pros and cons and realistic prospects for new storage technologies.
- Prospects for prosumers and how barriers can be overcome.

SERBIA

- Subcontracts from EPS such as for rerouting the river at Kolubara for the opening of a new mining area, transporting coal from Kostolac to Kolubara, producing concrete.
- Permitting processes in EPS, e.g. for the Kostolac B desulphurisation – what is going on? Why were construction permits requested after construction had been complete? Why is the desulphurisation not working? How much has the whole process cost?
- Over-employment in EPS. How many people are doing what? How many people are employed on a temporary basis and why?
- Non-transparent agreements and deals with Chinese investors.
- The relations between investors in the wind sector and the state.

ENDNOTES

- 1 For more information, see Artan Rama, Albania: Concerns over Increased Number of HPP Concessions, *Exit.al*, 26 September 2019; <https://exit.al/en/2019/09/26/albania-concerns-over-increased-number-of-hpp-concessions/>
- 2 Marko Repecki, Rusi preko HDZ-ovog financijera preuzimaju tržište plina u Hrvatskoj, *Index.hr*, 6 June 2018; <https://www.index.hr/vijesti/clanak/rusi-preko-hdzovog-financijera-preuzimaju-trziste-plina-u-hrvatskoj/2002252.aspx>.
- 3 Significant work has been done in this field already, particularly by MANS, but there is certainly more to be found; <http://www.mans.co.me/>.

ANNEX II – LIST OF INTERVIEWEES

Country	Affiliation	Interviewee
Albania	Eco-Albania	Olsi Nika
Albania	Expert on energy security	Elton Qendro
Albania	Pedagogue and energy lawyer, Tirana Business University (TBU)	Atty. Lorenc Gordani, PhD
Albania	EDEN Center	Lira Hakani
Bosnia and Herzegovina	Center for Environment (CZZS)	Majda Ibraković
Bosnia and Herzegovina	Center for Ecology and Energy (Tuzla)	Denis Žiško
Bosnia and Herzegovina	Faculty of Electrical Engineering at the University of Tuzla	Mirza Kušljagić
Bosnia and Herzegovina	ReSET – Center for the sustainable energy transition	Damir Miljević
Bulgaria	Za Zemiata	Todor Todorov
Bulgaria	Free Energy Market Association	Victor Minchev
Bulgaria	Sofena Energy Agency	Zdravko Georgiev
Bulgaria	Green Policy Institute	Petko Kovachev
Croatia	Zelena akcija (Friends of the Earth Croatia)	Luka Tomac
Croatia	Zelena Energetska Zadruga	Zoran Kordić
Croatia	IEECP	Ivana Rogulj
Croatia	Greenpeace Hrvatska	Zoran Tomić, Petra Andrić
Kosovo	Balkan Green Foundation	Rinora Gojani
Kosovo	Akuo Energy	Arbnor Kastrati
Kosovo	Kosovo Parliament	Mimoza Kusari Lila
Kosovo	Renewable energy consultant	Agim Mazreku
Montenegro	Green Home	Andrija Krivokapić
Montenegro	Project manager, Eco-Team	Diana Milev Čavor
Montenegro	Lead Consultant for Green Climate Fund Readiness and Preparatory Support for Montenegro	Đorđije Vulikić
Montenegro	Independent energy policy consultant	Danilo Barjaktarović
North Macedonia	Faculty of Mechanical Engineering	Risto Filkoski
North Macedonia	ESM – Power Plants of North Macedonia	Ivan Trpevski
North Macedonia	Macedonian Solar Association	Stefan Trajkov
North Macedonia	Macedonian Academy of Sciences	Aleksandar Dedinec
North Macedonia	Center for Climate Change	Bojana Stanojevska Pecurovska
Romania	Energy Policy Group	Andrei Covatariu
Romania	Energy Policy Group	Radu Dudau
Romania	Greenpeace Romania	Marian Mandru, Alin Tanase
Romania	2Celsius	Roxana Bucata
Serbia	CEKOR	Zvezdan Kalmar, Nataša Đereg
Serbia	CWP Renewables	Maja Turković
Serbia	Electrotechnical Faculty at the University of Belgrade, Department of power systems	Nikola Rajaković
Serbia	Renewables and Environmental Regulatory Institute (RERI)	Mirko Popović



ANNEX III – METHODOLOGY AND INTERVIEW QUESTIONS

This study combined two methods: desk research and expert interviews. Desk research was the primary method for data collection and was chosen due to the wealth of existing information about the topic already collected by Bankwatch and others. However, because there are gaps in the current knowledge, as well as areas where the level of information could be deepened, desk research was supplemented by interviews with experts. Experts are the individuals in the countries included in this study who either work as parts of the political or economic structures in that country or are closely following developments in those structures. This includes political commentators, CSO members, independent experts and industry representatives, among others. They are best placed to provide relevant context, additional information, and in-depth explanations, as well as well-informed opinions on the topic.

INTERVIEW SAMPLING

The target population for the interviews was those who are 'experts' on political economy issues in the nine different countries (including national authorities, think tanks, CSOs, energy companies). At least 4 interviews per case study site were conducted, for a total of 37 interviews.

Participants were identified via Bankwatch's existing networks in the countries. A long list of interviewees was drafted and contacted for interviews, and a subset of this long list was interviewed based on positive responses to requests sent by email.

DATA COLLECTION AND ANALYSIS

Desk research collected documents from existing reports by think tanks and CSOs (international and local), news articles and investigative journalism, reports previously written by Bankwatch and its partners, international/EU/national government statistics and documents, etc. that explain the various political economy factors that impact the energy transition.

Open-ended interviews were conducted based on a semi-structured protocol. It included a standard set of questions about the expert's involvement in the energy transition, goals for the energy transition, assessment of the successes and failures of the energy transition thus far, and opinion on what must be done to secure the energy transition in a timely fashion. Interviewers asked follow-up questions to explore topics in more depth, to clarify statements made, or to delve into topics not covered by the interview protocol that the respondent deemed relevant.

The interviews were conducted in English (with one exception where the local language of the respondent was used) and primarily over video conferencing technology, due to health

and safety concerns related to COVID-19. A small number of interviews were conducted in a written format. Interviews were recorded, fully transcribed using transcription software, and translated where necessary.

Partial interview transcriptions were analysed through a line coding process. Text was coded in blocks and particular quotes identified for inclusion in the report.

ETHICAL CONSIDERATIONS

The privacy and anonymity of interview respondents was ensured throughout the process.

The research background and aims, including the funding organisation, were discussed with participants before their interviews. We also asked for their verbal or written consent for the use of their name or other identifying features in the final product, as well as for permission to record the interviews, and did our utmost to ensure participants remain unidentifiable in the final product when anonymity was requested. We ensured that names were not included in interview recordings, transcripts, or notes and used a numerical identification system to maintain anonymity in electronic files.

All quotes were checked with the participants prior to publication and every participant was given an opportunity to peer review the study.

INTERVIEW PROTOCOL

Overall study questions (provided in advance to interviewees):

- What are the causes for inaction and mis-steps made by decision makers, private interests, and other structures in supporting an energy transition in southeast Europe?
- What would need to happen for a sustainable energy transition to take place at a more rapid pace?

Questions:

1. Using 2–3 sentences, how would you evaluate your country's current progress on energy transition?
2. To what extent is the country already locked-in to fossil fuel or other unsustainable energy due to recent investments or contractual obligations?
3. What are the strengths and weaknesses of the country's current energy strategy with respect to energy transition?
 - a. Are its demand projections realistic? Why or why not?
 - b. How do you assess its level of ambition with regard to energy efficiency and renewables?

- c. Is it committed to carbon neutrality by 2050, or is it considering it?
 - d. How do you evaluate your country's plans for transition in the heating/cooling sector?
 - e. How do you evaluate your country's plans for transition in the transport sector, if any exist?
 - f. Are false solutions being promoted?
 - i. How has this affected the discourse around energy transition?
4. I am going to list several common causes for inaction and mis-steps by policymakers regarding the energy transition. Describe to what extent each cause plays a role in delaying the transition in your country.
 - a. Outdated concept of the energy system, lack of knowledge by decision makers and disbelief that renewables can significantly contribute?
 - b. Lack of enforcement of EU pollution control and State aid rules?
 - c. Lack of transparency, corruption, state capture by state-owned utilities, and lack of accountability of decision makers?
 - d. Pressure from coal mining unions and a lack of courage to tackle a just transition?
 - e. Lack of political will to cooperate and realise regional synergies?
 - f. Other political problems (e.g. internal instability)?
 - g. Real technical difficulties?
 - h. Are there any other causes you have identified that I did not mention?
 5. What are the main steps needed to overcome the problems you identified?
 6. Which actors can champion a sustainable energy transition in the country?
 7. One of the target audiences for our research is investigative journalists. What energy transition-related topics need deeper examination by journalists?
 8. Do you have other suggestions for people we should interview on this topic who may have valuable insights?



ABOUT THE AUTHORS

Pippa Gallop is based in Zagreb, Croatia, and works as CEE Bankwatch Network's Southeast Europe energy advisor, with a specialisation in coal and hydropower in the Western Balkans.

Emily Gray is the research coordinator at CEE Bankwatch Network. She supports the research activities of the network, including methodology development, report drafting and publication. She has a Master's degree in international policy from Stanford University, where she specialised in democracy, development and the rule of law in Southeast Europe and research methodologies.

Elena Nikolovska is the programme coordinator at Eko-vest, a member group of CEE Bankwatch Network in Skopje, North Macedonia. She is a lawyer with many years of experience as an environmental journalist. She has worked for Eko-vest since 2017 as communications coordinator and project coordinator within the energy and climate programme.

Alexandru Mustață has a Bachelor's degree in European studies and international relations and holds a Master's degree in environmental engineering. He previously worked as a coal campaigner for Bankwatch for six years and led one of the first just transition campaigns in central and eastern Europe. He also coordinated CEE Bankwatch Network's just transition campaign in seven countries for four years. In 2021, he joined Europe Beyond Coal as a district heating campaigner for the Western Balkans.

Raluca Petcu has been part of the Bankwatch Romania team since February 2020 as a communications coordinator. Her role is to promote Bankwatch Romania's campaigns to phase out coal from the energy system, to support a just transition and to transform the energy system, working closely with all team members. Raluca has a degree in communication and public relations and has five years of experience in this field.

IMPRINT

Friedrich-Ebert-Stiftung | Dialogue Southeast Europe
Kupreška 20 | 71000 Sarajevo | Bosnia and Herzegovina

Responsible:

Dr Ralf Melzer | Director | Dialogue Southeast Europe
Phone: +387 (33) 711 540 | Fax: +387 (33) 711 540

www.fes-southeasteurope.org

Project Manager: Selma Šehović
Communication Officer: Ema Smolo
Design/Typesetting: pertext, Berlin

To order publications:

info@fes-soe.org

Commercial use of all media published by the Friedrich-Ebert-Stiftung (FES) is not permitted without the written consent of the FES.



The Friedrich-Ebert-Stiftung in Southeast Europe

After more than two decades of engagement in Southeast Europe, the FES appreciates that the challenges and problems still facing this region can best be resolved through a shared regional framework. Our commitment to advancing our core interests in a socio-ecological transformation, democratic consolidation, social and economic justice and peace through regional cooperation, has since 2015 been strengthened by establishing an infrastructure to coordinate the FES' regional work out of Sarajevo, Bosnia and Herzegovina: the Regional Dialogue Southeast Europe (Dialogue SOE). In close cooperation with the twelve FES country offices across Southeast Europe, Dialogue SOE provides analysis of shared challenges in the region and develops suitable regional programs and activities.

<http://www.fes-southeasteurope.org>

The views expressed in this publication are not necessarily those of the Friedrich-Ebert-Stiftung (FES), or of the organization for which the authors work. The FES cannot guarantee the accuracy of all data stated in this publication. Commercial use of any media published by the Friedrich-Ebert-Stiftung is not permitted without the written consent of the FES. Any reference made to Kosovo is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence. Any reference made to Macedonia in this publication is understood to refer to the Republic of North Macedonia.

PEET

The Political Economy of Energy Transition in Southeast Europe – Barriers and Obstacles



Many of the issues discussed are issues of democratic development, governance, public and parliamentary scrutiny of decisions being taken, and a functional justice system, which are much wider than the energy sector and require further sustained efforts by all actors – domestic and international – to improve the situation in the countries. All the countries have committed via the GAWB to phase out the use of fossil fuels by 2050 to achieve carbon-neutral economies, but clearly stated coal phase-out dates are still missing. For plants that need to operate, pollution control equipment is a must to diminish public health impacts.



A major difference between the EU and non-EU countries in the region is that carbon pricing is not yet obligatory in the Energy Community countries. It is only a matter of time until the EU introduces a CBAM for countries that do not internalize the external costs of GHG. Electricity price increases are a politically sensitive issue, because of the low household incomes and inefficient use of electricity for space heating and although the per-unit price is low, many people's bills are already unbearably high. Energy poverty seems widespread across SEE, but little information is publicly available. Decision-makers need to be held accountable for their actions. Grassroots organizations, NGOs, political parties, and independent trade unions can all be platforms and avenues for change here.



Prioritize energy transition. Speed up transposition and enforcement of EU energy, State aid, and environmental legislation. Take ownership of reforms of incumbent utilities and open them up to increased public scrutiny. Involve different experts and bodies in monitoring progress. Engage sufficient, qualified, personnel – no matter their political disposition – in the relevant institutions. Proactively open up public debate about energy transition – not just one-off events – and listen to a range of voices. In all cases, a solid plan to ensure a just transition away from fossil fuels is needed and should be done in a participatory manner and bottom-up approach with the active involvement of local authorities. Given the relatively small size of the countries examined, moving towards a decentralized energy system based largely on variable renewables depends greatly on regional cooperation.

Further information on the topic can be found here:
www.fes-southeasteurope.org