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**EU green transition
in Southeastern Europe.
Challenges and perspectives**



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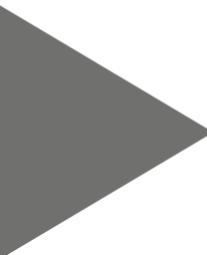
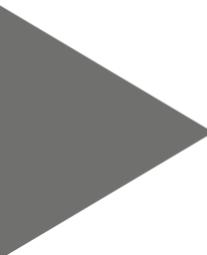


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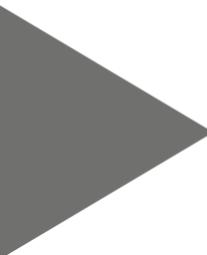


Résumé

- All the states referred to in this paper are, to varying degrees, fulfilling their formal obligations. Their provision of the relevant documents, acts, and plans remains the only highlight of the green transition in SEE. The implementation of these obligations, however, still constitutes a major challenge.
- The SEE countries that we cover in this policy paper each have their own areas of concern regarding the implementation of the EU Green Deal. Slovenia faces institutional problems that seem to be relatively easy to fix, compared with Croatia, where more substantial problems with the use of EU funds have been highlighted. Adjusting administrative systems in a relatively small country to the requirements of the green transitions will be faster and less painful than remodelling administrative systems that for a long time, more than ten years, were unable to either allocate or distribute EU funds. Even more significant

challenges are faced by Kosovo, being relatively poor and economically disadvantaged.

- The energy mix within SEE varies, and the most favourable position is found in Slovenia because of its relatively high (19%) level of use of renewable sources of energy, and an additional 23% covered by nuclear energy. Here, a lot will depend on the ability of Slovenia to use its renewables (mostly hydropower) and develop a nuclear power plant in Krško. In Croatia, on the other hand, the authorities are facing more substantial problems related to their energy efficiency as well as their institutional capacity to transform the energy mix. The energy mix in Kosovo remains relatively difficult to change because of its obsolete infrastructure; and yet, its weak industry, including manufacturing, makes the cost of transformation lower than, for example, in Slovenia.



Introduction

The green transition of the EU and its economy is reflected in the so-called EU Green Deal, which in turn is set to become one of the most important vectors of EU policy for the upcoming decade. The green transition does not only mean segregation of waste, single-use paper plates at garden parties or using public transport instead of driving private cars to work. The EU Green Deal sets out the direction in which economies as well as labour markets and, subsequently, societies will develop. It can be compared with the significance and impact of the Common Agricultural Policy and, later, also the Cohesion Policy. The economy and the labour market will undergo a transformation not seen in decades. The green transition will provide a new influx of funds into particular areas of the economy. Therefore, we will witness significant changes, especially in the transport, energy, agriculture, building maintenance and construction sectors, and also in industries involved in the production of steel, cement, textiles, and chemicals. Indirectly, all other branches of the economy will also experience changes.

For the countries of Southeast Europe, the EU Green Deal and the subsequent green transition will constitute both a challenge and an opportunity. Lack of key elements, such as funds or a legislative framework encouraging research and development mode of business, know-how (of natural scientific knowledge as well as engineering expertise concerning the various technical solutions), and competent and efficient public administration constitute, major disadvantages. These factors have already proved to be key circumstances leading to significant delays in some major reforms.

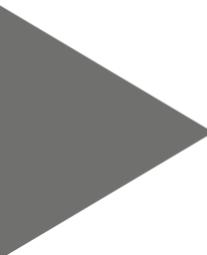
An opportunity arises from the paradox of the underdevelopment of the majority of SEE states (except for Slovenia) and their economies. In other words, the failed transition of the 1990s, which did not develop into economic success, as was the case for Slovenia, Central European states and the Baltic republics, might work in favour of Croatia, Serbia, and Bulgaria; their green economies have to be constructed from scratch rather than undergoing the costly and painful reconstruction of more developed industries, such as, for example, those in Poland or the Czech Republic.

In order to understand the basic requirements related to the green transition and sustainable development, the energy mix of particular countries needs to be examined. Shares of coal and oil used as energy sources or, alternatively, renewable sources of energy, indicate the challenges waiting in the energy sector. This in turn is a key segment of the economy, providing (or not) affordable energy prices and, therefore, affecting costs of production and the competitiveness of the economy.

The green transition also generates political costs and, therefore, requires considerable political support. This can vary from general support for sustainable development and green transition to scepticism related to the potential loss of jobs or revolution in the labour market. It is also important to understand which political fractions generally support the EU Green Deal and the related transition, and which oppose it.

Strategic and legal frameworks remain a crucial part of the plan and a map for navigating the fragmented and multiconnected waters of the green transition. They also indicate whether the country can align itself with the EU guidelines and, therefore, have access to the available EU funds and mechanisms. Finally, it is crucial to understand who will be involved and how the implementation of the green transition will occur. The authors of the texts presented below will answer these questions.

Jan Muś
22 September 2022



Jan Muš and Danijel Crnčec

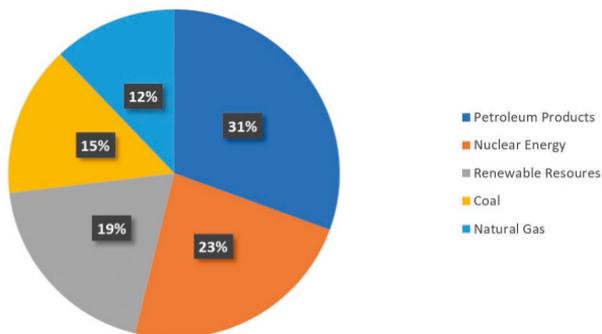
EU Green Deal in Slovenia

Slovenia energy mix

According to the Statistical Office of the Republic of Slovenia (SORS), in 2021, the largest share of total available energy was created out of petroleum products (30.6%), followed by nuclear energy (23.2%), and renewable sources (19.3%). This was slightly different than in 2020, when petroleum products also prevailed in the structure of supplied energy at 29%, followed by nuclear energy at 25%, renewable energy sources (including hydro energy) at 19%, coal at 16%, and natural gas at 11%¹.

¹ Serbia & SEE Energy News, *Slovenia: Energy dependency in 2020*, 26 May 2021, <https://serbia-energy.eu/slovenia-energy-dependency-in-2020/#:~:text=The%20supply%20of%20petroleum%20products%20decreased%20to%20the%20most%2C,energy%20dependency%20in%202019%20stood%20at%2048%20%25> [8.06.2022].

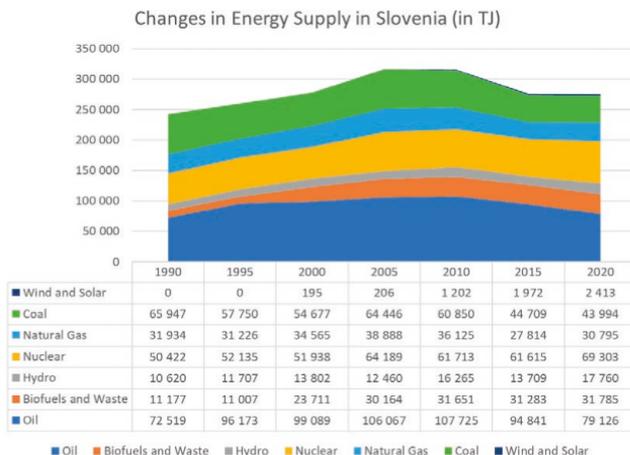
Chart no. 1: Energy supply in Slovenia in 2021



Source: Statistical Office of the Republic of Slovenia (SORS), *Energy in Slovenia and the EU-27*, <https://www.stat.si/StatWeb/en/News/Index/10319>

According to the International Energy Agency, the dynamics of the structure of the energy supply of Slovenia between 1990 and 2020 was as presented in the diagram below:

Diagram no. 1: Changes in energy supply in Slovenia between 1990 and 2020



Source: IEA, *Slovenia*, <https://www.iea.org/countries/Slovenia>

Firstly, from the diagram above, we can see that the overall level of energy supply in Slovenia increased between 1990 and 2008 and then dropped significantly after that period. Second, although fossil fuels still produce a significant share of the energy, the contribution of nuclear and green sources increased. Nuclear energy production increased between 1990 and 2020 from 50,411 TJ to 69,303 TJ, while hydro increased by 70%. There has been some deployment of solar energy, however, deployment of wind energy has been very limited. Thus, solar and wind energy provide an insignificant share of overall energy supply.

Since 2000, energy import dependence has varied between 53.1% in 2008 and 43.6% in 2014. In 2020, it was at 46.9%². Between 1990 and 2019, total primary energy supply increased by 19%, and production of energy by 13% from 128 to 145 TJ³. “Total amount of domestic energy sources in Slovenia in 2020 was 3.7 million tons of oil equivalent (Mtoe), which is 5% more than in 2019. The total primary energy supply of Slovenia in 2020 was 6.4 Mtoe, which was 5% less than in 2019 (6.8 Mtoe). The supply of petroleum products decreased the most, namely by 16%”⁴.

In 2021, the production of electricity was 12,355.7 GWh. 36.7% of electricity was produced from renewables, 25.8% from fossil fuels, and the rest (37.5%) from nuclear sources (note that only half of the electricity produced in Krško NPP is taken into account – the other half goes to Croatia, which

² Statistical Office of the Republic of Slovenia (SORS), <https://www.stat.si/StatWeb/en/News/Index/10321> [7.06.2022].

³ International Energy Agency, *Slovenia*, <https://www.iea.org/countries/Slovenia> [5.06.2022].

⁴ Serbia & SEE Energy News...

co-owns 50% of the Krško NPP). Consumption in 2021 was 14,173 GWh. 82.9% of the consumed electricity was domestically produced⁵.

Energy import dependency is almost complete in some areas: in 2020, Slovenia imported 99.5% of petroleum products and 99.4% of natural gas consumed in the country. Slovenia imported 17.6% of gross available energy from Russia (at least indirectly – it is estimated that 80% of the country's imports from Austria are actually from the Russian Federation). Thus, the country imported 81% of total available natural gas and 24.9% of total available petroleum products from Russia⁶.

Discourse on the green transition

Before Slovenia's EU accession in 2004, the main topic was the security of supply. After 2004, environmental sustainability received more attention, however, Slovenia's energy (and climate) policy has not been consistent and lacked transparent strategic planning. First, a climate law was already drafted in 2010 (and again in 2019), however, it was never adopted. The new government, which came into office in June 2022, announced that a climate act will (finally) be adopted. Slovenia's Climate Long-term Strategy 2050 was only adopted in July 2021 (i.e., one and a half years later as set by the Regulation (EU) 2018/1999). Second, nuclear energy has had a bumpy road – after commissioning the Krško

⁵ Agencija za Energiju, Poročilo o stanju na področju energetike v Sloveniji. 2021, Slovenia, <https://www.agen-rs.si/documents/10926/38704/Poro%C4%8Dilo-o-stanju-na-podro%C4%8Dju-energetike-v-Sloveniji-v-letu-2021/17048023-cfc5-4283-8e48-5fa078ad2ae6> [2.09.2022].

⁶ Statistical Office of the Republic of Slovenia...

Nuclear power plant (NPP) in 1983, Slovenia even adopted the long-term strategic decision to abandon nuclear power generation in the 1990s. However, in the 2000s, the country started to consider extending the operation of the existing Krško NPP and to plan a new NPP [putting forward i) the possible construction of an NPP on Croatian territory jointly with Croatia, or ii) a new NPP at Krško]⁷. Lastly, in 2012, the operation of the existing Krško NPP was extended (from 2023 to 2043). However, following NGO complaints, an environmental impact assessment had to be done (still ongoing in 2022). In parallel, after unsuccessful talks in 2018 and 2019, Slovenia and Croatia will build separate disposals for low and intermediate-level radioactive waste from the Krško NPP⁸. In 2021, Slovenian authorities undertook the decision to support the long-term use of nuclear energy, however, the decision on a new nuclear power plant should be adopted by 2027 latest^{9 10}.

Another important aspect of the energy discourse was the use of domestic coal for electricity generation. For many years, coal was considered an important element of the domestic energy supply. In 2014, a new Unit 6 at the Šoštanj thermal power plant (TPP) was commissioned, aiming to

⁷ D. Crnčec, A. Bojinović Fenko, *Slovenia as a Stress Test of the EU's External Dimension of Energy Policy*, "Czech Journal of Political Science", vol. XXIX, 2022, no. 1, pp. 14-31, DOI: <https://doi.org/10.5817/PC2022114>.

⁸ D. Crnčec, *Energy Governance in Slovenia*, in: M. Knodt, J. Kemmerzell (eds.), *Handbook of Energy Governance in Europe*, Springer, Cham 2022, DOI: https://doi.org/10.1007/978-3-319-73526-9_28-1.

⁹ Resolucija o Dolgoročni podnebni strategiji do leta 2050 (ReDPSS50), Official Gazette, no. 119/2021, Slovenia, <https://www.uradni-list.si/glasilo-uradni-list-rs/vsebina/2021-01-2552/resolucija-odolgorocni-podnebni-strategiji-slovenije-do-leta-2050-redpss50> [27.05.2022].

¹⁰ Integrated National Energy & Climate Plan of the Republic of Slovenia (NECP) 2020, <https://www.energetika-portal.si/dokumenti/strateski-razvojni-dokumenti/nacionalni-energetski-in-podnebni-nacr/> [15.04.2022].

gradually replace the technologically obsolete older units with the best available technology. However, the construction of Unit 6 in the Šoštanj TPP was highly controversial, as there was no clear political and expert consensus on the project. In time, the initial price of EUR 600 million increased to EUR 1.4 billion and the project soon came under the scrutiny of the anticorruption authorities in Slovenia and the EU. Indeed, in March 2021, Slovenian company HSE and General Electric (the legal successor to Alstom, which had built Unit 6) signed an arbitration settlement worth EUR 261 million. In parallel, criminal proceedings against 16 people were underway in the national courts. Furthermore, much controversy was caused by the proposed coal phase-out and early closure of the Velenje coal mine and Unit 6 (which should have been in operation until 2054)¹¹. In 2022, the government adopted the decision to phase-out coal by 2033 at the latest, despite strong opposition from coal and energy unions and the local municipality¹².

Similarly, the deployment of RES was one of the most important issues of the energy discourse in Slovenia. Traditionally, hydropower has been perceived as one of the cornerstones of the energy mix of Slovenia and there has been a general political consensus regarding the further development of hydro-energy. However, with plans to further deploy hydro energy on the Sava and Mura rivers, significant con-

¹¹ D. Crnčec, *Energy Governance in Slovenia...*

¹² National Strategy on the Coal Phase-out and Restructuring of Coal Regions in accordance with Just Transition Principles – Nacionalna strategija za izstop iz premoga in prestrukturiranje premogovnih regij v skladu z načeli pravičnega prehoda, Slovenia, https://www.energetika-portal.si/fileadmin/dokumenti/publikacije/premog_izhod_strategija_prem_vlada_jan2022.pdf [27.05.2022].

testation and tensions between different stakeholders have arisen. While plans for HPPs on the Mura River have been politically cancelled, three HPPs on the middle Sava River had to be omitted from the draft NECP due to a negative environmental assessment. In 2022, the construction of the last HPP on the lower Sava River (Mokrice) was still pending in court.

Strategic and legal framework

Slovenia has long had inconsistent strategic energy planning. Following the adoption of the National Energy Program in 2004, it took 16 years until the country succeeded in adopting a new strategic energy document, i.e., the Integrated National Energy and Climate Plan (NECP)¹³ (in 2011 and 2018, there were unsuccessful attempts at adopting a revised National Energy Program and Energy Concept of Slovenia, respectively). In March 2021, the Long-term Strategy for the Renovation of buildings for 2050 was adopted, with a vision of approaching net zero emissions in the buildings sector¹⁴. In July 2021, the Resolution on the Slovenian long-term climate strategy 2050 was adopted, outlining two possible scenarios for attaining climate neutrality by 2050 and formally confirming the country's support of the long-term use of nuclear energy¹⁵. In January 2022, the country adopted the National Strategy on the coal phase-out and restructuring of the coal regions in accordance with the just transition

¹³ Integrated National Energy & Climate Plan of the Republic of Slovenia...

¹⁴ *Long-term Buildings Renovation Strategy 2050 – Dolgoročna strategija energetske prenove stavb do leta 2050*, https://www.energetika-portal.si/fileadmin/dokumenti/publikacije/dseps/dseps_2050_final.pdf [27.05.2022].

¹⁵ Resolucija o Dolgoročni podnebni strategiji do leta 2050...

principles, which included the decision to phase-out coal by 2033 at the latest¹⁶.

In 2014, a new Energy Act came into force, replacing the previous one from 1999. It aimed to ensure a competitive, secure, reliable, and affordable supply of energy and energy services while respecting the principles of sustainable development¹⁷. From 2020 onwards, Slovenian energy legislation has been in a process of full revision, with the intention of transposing the EU energy legislative developments into national legislation. The all-encompassing Energy Act has been cut and developed into several energy acts covering specific energy areas (e.g., Act on Energy Efficiency, Act on the Promotion of the Use of Renewable Energy Sources, Electricity Supply Act, Gas Supply Act). During 2022, a package of (crisis) energy legislation was adopted due to the tightening of conditions in the energy markets.

Image no. 1: Slovenia's strategic and legal energy framework



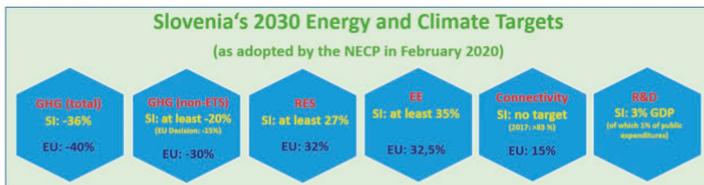
Source: D. Crnčec, *Energy Governance in Slovenia*, in: M. Knodt, J. Kemmerzell (eds.), *Handbook of Energy Governance in Europe*, Springer, Cham 2022, DOI: 10.1007/978-3-319-73526-9_28-1

¹⁶ National Strategy on the Coal Phase-out...

¹⁷ Energy Act (EZ-1), Slovenia, <http://www.pisrs.si/Pis.web/pregledPredpisa?id=ZAKO6665> [27.05.2022].

Slovenia has set itself a varied climate and energy 2030 target. The country overshoot its non-ETS target for 2020 and adopted a target for 2030 that was 5 percentage points more ambitious than agreed with the Effort Sharing Decision (thus being one out of four EU Member States that set more ambitious targets in their NECPs). In parallel, Slovenia also overshoot its 2020 energy efficiency and adopted a 2030 target (at least 35% compared to 2007), being higher than the EU target (32.5%). The country has been less successful and ambitious in the RES area; Slovenia had to buy statistical transfer to attain its 2020 RES target (25%). Furthermore, the country adopted a very unambitious 2030 target, i.e., at least 27%, reflecting its implementation deficit and possible collision of energy targets with environmental limitations (arising from Natura 2000 and other protection regimes)¹⁸.

**Image no. 2: Slovenia's energy and climate 2030 targets
(as set in the NECP, adopted in 2020)**



Source: D. Crnčec, *Energy Governance in Slovenia*, in: M. Knodt, J. Kemmerzell (eds.), *Handbook of Energy Governance in Europe*, Springer, Cham 2022, DOI: 10.1007/978-3-319-73526-9_28-1

¹⁸ D. Crnčec, J. Penca, M. Lovc, *Proper in Speech, Careful in Acts: Slovenia's Challenging Transition to Climate Neutrality*, in: H. Dyrhaug, K. Kurze (eds.), *The European Green Deal in the making: EU sustainability policies at home and abroad*, forthcoming.

The country set improving energy and material efficiency in all sectors (and, therefore, decreasing consumption of energy and other natural resources) as the first and key measures for the transition to a climate-neutral society¹⁹. Finally, Slovenia initiated the NECP update process in 2022, and it is expected (and also announced) that the country's ambition in all areas will be increased.

Main actors

Within the area of energy policy, among the public actors, the most important is the Ministry of Infrastructure, which is responsible for energy policy. Its obligations cover the preparation of strategic, political, and legal energy frameworks as well as guidance on and implementation of energy policy. The Ministry of Environment and Spatial Planning is also partly involved in energy governance, both at the strategic level, through the development of national long-term climate policy and the conducting of strategic environmental assessments of strategic energy documents, and at the implementation level through spatial planning of energy infrastructure. Other ministries are also involved whenever the energy policy affects their areas of interest (economy, research, poverty)²⁰.

Other relevant public institutions involved in energy policy preparation or implementation are:

- Energy Agency – as the national energy regulator, it is responsible for creating a level-playing field for all energy market participants. The Agency also managed

¹⁹ Integrated National Energy & Climate Plan of the Republic of Slovenia...

²⁰ D. Crnčec, *Energy Governance in Slovenia...*

the state aid scheme promoting electricity generation through RES and CHP.

- Slovenian Environmental Fund (the Eco Fund) – offers financial incentives for environmental projects that increase Energy efficiency and renewable energy measures.
- Borzen – the Slovenian electricity market operator, ensures implementation of regulations related to renewable sources and efficient use of energy. As such, it provides an impetus for environmental policy and promotes relevant public awareness.
- In Slovenia, nine companies operated large-scale plants with an installed capacity of more than 10 MW. They were organized into two fully state-owned wholesale energy pillars, i.e., the Holding Slovenske Elektrarne (HSE) group and the GEN energija group. Both transmission system operators (TSOs); i.e., ELES (electricity) and Plinovodi (gas), and big energy companies, such as Petrol Group (the largest Slovenian energy company) and Geoplin (Slovenia’s largest natural gas trader) are also important energy actors. Last but not least, environmental NGOs in Slovenia were also well-developed and active in larger European NGO networks.

Key challenges and recommendations

The Eco-Innovation country report for Slovenia (2019) highlights material productivity, water productivity, energy productivity, and GHG emissions intensity as the main challenges for the country on its path to a climate-neutral and circular society. The report also stresses complex ad-

ministrative or legal procedures, lack of expertise to implement circular activities as well as lack of human resources on all levels and difficulties in assessing finance as important barriers”²¹.

Similarly, the NECP (adopted in February 2020) also highlights that the entire institutional system of the energy market – from ministries to energy companies and energy end users – faces a major challenge related to energy (and climate) governance and policy implementation in all sectors²². The Slovenian government can approach this issue in two different ways: either by establishing a new public office that would focus on the implementation of the EU climate policy or by trying to reinforce (i.e., build the capacity of) existing institutions with relevant expertise.

The Resolution on the Long-Term Climate Strategy of Slovenia to 2050, adopted in July 2021 by the National Assembly of the Republic of Slovenia, emphasized that the goal of climate neutrality by 2050 can only be achieved with the effective, successful, and coordinated implementation of long-term climate policy, and provided for the establishment of a government service responsible for the coordination of Slovenia’s climate policy²³.

The size of the country and its economy could be both an advantage and disadvantage while the green transition is taking place. Compared to countries of 10, 20, or 30 million inhabitants, changes should be easier to implement. Slovenian society, being relatively eco-aware and -oriented

²¹ European Commission, Eco-Innovation Index. Country profile: Slovenia, https://ec.europa.eu/environment/eoap/slovenia_en [15.06.2022].

²² Integrated National Energy & Climate Plan of the Republic of Slovenia...

²³ Resolucija o Dolgoročni podnebni strategiji do leta 2050...

compared to other CEE or SEE societies, has been conscious for some time of ecological requirements and the necessity for the green transition. However, semi-peripheral countries like Slovenia face a significant problem of the lack of capital compared to giants like Germany, France, or the Netherlands, which is required for such economic revolutions as well as long-term investment in the research and development sector, which would allow for the use of relevant technologies independently from global players.

Slovenia is largely dependent on the international economic environment, which has become less stable and predictable than was anticipated 10 years ago. For small countries like Slovenia, this constitutes a significant challenge. It concerns especially oil and gas imported from abroad, which makes up 43% of the energy supply in Slovenia (in 2021). 81% of petroleum products and over 24.9% of gas were supplied directly or indirectly from Russia, which constitutes a problem on its own. However, since 2010, the trend in consumption of petroleum products has been negative (i.e., decreasing). In addition, the country has been actively addressing barriers to further renewable energy deployment and is expected to increase its 2030 renewable energy ambitions, which allows us to look to the future of the Slovenian green transition with hope.

Ana-Maria Boromiša

EU green transition in Croatia

Croatia is a net importer of energy and relies mainly on carbon-based fuels. Roughly 50% (53.6% in 2020) of energy is imported¹ and this is dominated by petroleum products (35%) and crude oil (26%), followed by natural gas (21%), electricity (10%), and coal and coke (7%). The share of fossil fuels in gross available energy is about 70% (67.8% in 2020)². Liquid fuels (oil and derivatives) are the largest primary energy source, followed by gas. Taken together, liquid fuels (oil and derivatives), coal, and gas are 63% of the total primary energy supply. There are traditionally high shares of hydropower (roughly 25% of the primary energy production) and significant potential to increase the use of solar and wind power. Following the introduction of an incentive system for renewables in 2007, the share of renewables (primarily wind and solar) has been increasing and has now

¹ Eurostat, *Energy Data*, <https://ec.europa.eu/eurostat/web/energy/data> [16.09.2022].

² Ibid.

reached 16% (731 MW) of installed grid-connected power generation capacity³.

An LNG terminal, 50% financed by Connecting Europe Facility as an EU Project of Common Interest, and one of the priority projects under the Central and South-Eastern Europe Energy Connectivity (CESEC) initiative, became operational in 2021. Natural gas and LNG can serve as bridging fossil fuels during the transition.

The largest sectoral contributors to the final energy consumption are the general sectors, i.e., the residential sector, building and construction, tourism, transport, and industry.

Croatia's energy intensity (174.04 kg of oil equivalent per EUR 1000 GDP in PPP)⁴ is higher than the EU average (providing potential for improvements). The share of renewable energy in gross energy final consumption (31%) is also higher than the EU27 average (22%) and Croatia met the 2020 headline target (20%)⁵.

The Croatian energy mix shows that Croatia is vulnerable to energy price volatility and the availability of water. The main factors that will drive changes in the energy mix in the coming years are expected improvements in energy efficiency (which decreases overall demand), electrification of transport (increasing electricity and decreasing the demand for liquid fuels) as well as demographics (ageing and emigration).

³ A.-M. Boromiša, *Energy Governance in Croatia*, in: M. Knodt, J. Kemmerzell (eds.), *Handbook of Energy Governance in Europe*, Springer Nature, Camb 2022, pp. 1-31, <https://www.bib.irb.hr/1158785> [27.05.2022].

⁴ Eurostat, *Share of renewable energy in gross final energy consumption by sector*, https://ec.europa.eu/eurostat/databrowser/view/sdg_07_40/default/table?lang=en [16.09.2022].

⁵ Ibid.

Political opposition towards the EU green strategy

The Croatian government and major opposition parties formally support the EU green strategy.

Slow and partial transposition of current EU legislation supporting green transition (e.g., the clean energy for all package) and limited human resources allocated to the green transition at the national level show that green transition is not (yet) perceived as an urgent policy issue. Prioritising investments in fossil fuels infrastructure (LNG terminal) and subsidising gas-fired boilers and road transport (electric cars) while imposing significant barriers to the deployment of renewables and decentralisation of energy systems show that the government's support for green transition is not genuine.

Among the political parties, except perhaps for the left block Možemo (We can), there is no clear green agenda. While there is no obvious political opposition toward the EU green strategy, there is also no adequate support for its implementation. In addition to a lack of interest in the topic of green transition, Croatian policies are generally focused on short-term measures. Design and implementation of measures for green transition require a longer time perspective.

Country-specific recommendations within the European Semester regularly identify the need to improve coordination mechanisms among Croatian institutions. However, Croatia has been making only limited progress in this area. This is closely linked with the green transition, which requires inter-institutional and policy coordination. As a result, the current institutional set-up creates political opposition towards the EU green strategy, despite formal support. A lack of substantial progress in setting and imple-

menting more ambitious goals for green transition shows that it is either exceeding the capacities of the government, or that the government at best ignores, and at worst boycotts, its implementation.

The main challenges are identifying the green transition as a relevant political topic at both the national and sub-national level and opening political debate on this issue. In the short term, this might happen in the city of Zagreb, where the Social Democrats have announced the termination of their coalition agreement with Možemo, which prioritises the green agenda. The results of renewed negotiations could have an impact on the green agenda at the national level and become an issue in mobilising voters for the next national and local elections.

Legal framework

Green and digital transitions are among four key development directions identified in the Croatian National Development Strategy⁶ for the period until 2030 (see Table 1). However, the degree of ambition at a national level is significantly lower than at the EU level. For example, the National Development Strategy has established the 2030 goal of 35% GHG reduction compared to 1990. This is well below the 55% target required by European Climate Law. The Energy Development Strategy⁷ sets the vision for the green transition of the energy sector, but the analysis does not include a climate-neutral scenario. The same approach is included

⁶ National Development Strategy, Republic of Croatia Official Gazette, no. 13/2021, https://narodne-novine.nn.hr/clanci/sluzbeni/2021_02_13_230.html [27.05.2022].

⁷ Energy Development Strategy, Republic of Croatia Official Gazette, no. 25/2020, https://narodne-novine.nn.hr/clanci/sluzbeni/2020_03_25_602.html [27.05.2022].

in the Low Carbon Development Strategy (LDCS)⁸, adopted by the Croatian Parliament when the provisions of the European Climate Law were already well known (in June 2021, with the European Climate Law being published in an Official Journal in July 2021). Still, while the LDCS states that Croatia shares the ambition that the EU should become climate-neutral by 2050, it states that the achievement of this climate neutrality for Croatia is challenging, and that solidarity among the EU member states should apply. This is coherent with expectations that the green transition in Croatia should be primarily financed from the EU budget and that countries with a lower GDP (such as Croatia) should have lower goals. According to the Government, Croatia can reduce emissions by 44.8% by 2030 and 89.4% by 2050. The remaining 10.6% to achieve climate neutrality could be achieved by increasing carbon sinks and using technology measures (carbon capture and storage).

Table no. 1: Key objectives and contributions of Croatia to the EGD by 2030

KEY OBJECTIVES AND CONTRIBUTIONS OF CROATIA BY 2030
National strategic direction: Green and digital transition with specific objectives: environmental and energy transition for climate neutrality, sustainable mobility ⁹ .
Decarbonisation: climate change mitigation and adaptation
Reduce GHG emissions in the ETS sector: at least 43% compared to the 2005 level, for non-ETS sectors: at least 7% compared to the 2005 level.

⁸ Low Carbon Development Strategy (LDCS), Republic of Croatia Official Gazette, no. 63/2021, https://narodne-novine.nn.hr/clanci/sluzbeni/2021_06_63_1205.html [27.05.2022].

⁹ National Development Strategy...

Reduce the vulnerability of natural systems and society to negative climate change impacts and increase resilience and capacity for recovery. Use the potential benefits of climate change¹⁰.

Decarbonisation: renewable energy

RES 2030 targets

- share of RES in the gross final consumption of energy: 36.4% (up from 28.6% in 2020)
 - share of RES in the gross final consumption of electricity: 63.8% (up from 47.0%)
 - share of RES in the gross direct consumption of the energy for heating and cooling: 36.6% (up from 33.3%)
 - share of RES in transport: 13.2% (up from 5.2%)
-
- Increase the production of renewable hydrogen
 - Increase the potential for use of renewables for production of renewable hydrogen
 - Increase usage of hydrogen
 - Incentivise research and development in the field of hydrogen technologies¹¹.

Energy efficiency

Retrofit of building stock¹².

Improvement of energy efficiency in all energy sectors and industries¹³.

Indicative energy efficiency target by 2030: 32.5% until 2030¹⁴.

344.38 PJ (8.23 Mten) of primary energy consumption.

286.91 PJ (6.85 Mten) of final energy consumption¹⁵.

Social perception of the green transition

Green transition is not a priority in the eyes of the public. Only 5% of Croatian citizens consider the environment and climate change to be amongst the most crucial issues faced

¹⁰ Climate Adaptation Strategy, Republic of Croatia Official Gazette, no. 46/2020, https://narodne-novine.nn.hr/clanci/sluzbeni/2020_04_46_921.html [27.05.2022].

¹¹ Croatian Hydrogen Strategy until 2050, Republic of Croatia Official Gazette, no. 40/2022, https://narodne-novine.nn.hr/clanci/sluzbeni/2022_03_40_492.html [27.05.2022].

¹² European Commission, *Long Term Building Renovation Strategy*, https://ec.europa.eu/commission/presscorner/detail/en/fs_19_6725 [27.10.2022].

¹³ Energy Development Strategy...

¹⁴ National Development Strategy...

¹⁵ Integrated National Energy and Climate Plan (NECP) 2021-2030, Croatia, https://mingor.gov.hr/UserDocsImages/UPRAVA%20ZA%20ENERGETIKU/Strategije,%20planovi%20i%20programi/hr%20necp/Integrirani%20nacionalni%20energetski%20i%20klimatski%20plan%20Republike%20Hrvatske%20%20_final.pdf [27.05.2022].

by the country, compared to 15% across the EU¹⁶. A relatively low percentage of Croatian citizens think that climate change is caused by human activities, while others display a sense of fatalism – it is already too late to reverse the effects of climate change, whatever the cause. Also, there is a strong sense that Croatia is too small to matter in global climate mitigation efforts, and that green transition is expensive and unaffordable. Thus, the prevailing perception is that the green transition is just another EU requirement which is accompanied by the perception that one who considers it important should pay for it. As such, the green transition is not seen as a priority.

Croatian citizens consider inflation (rising prices/cost of living), health, the economic situation, unemployment, energy supply, and immigration to be far more pressing. Investments in a green transition are thus seen as a luxury, an excessive cost that threatens job security.

The experience of the post-socialist transition showed Croatians that the costs and benefits of the transition were very much unevenly distributed among societal groups. The more vulnerable groups were negatively affected and so, there is a fear that it will happen again and that the poorer citizens are expected to suffer – rather than benefit – from the results of a green transition.

The distribution of costs and benefits of the green transition among societal groups depends greatly on demand levels, technology costs, and the timing and shape of policy actions. Insufficient equity considerations, and failure to

¹⁶ Eurobarometer, *Standard Eurobarometer 97 – Summer 2022 – Country Factsheets*, <https://europa.eu/eurobarometer/surveys/detail/2693> [27.05.2022].

adequately address negative impacts and provide support for individuals and societal groups adversely affected by reforms, can lead to political resistance and social unrest and slow down those reforms. The vast majority of Croatian citizens (78%) tend not to trust the Government.

Some local communities have recognized the potential benefits of a green transition (e.g., the island of Krk). They pursue selected elements of a green transition (such as waste management or deployment of renewable energy sources on the island of Krk) as bottom-up initiatives and recognize their necessity. However, such a perception is still the exception rather than the rule.

Raising awareness of the importance of a green transition for social development is a challenge. The use of funding from the Just Transition Fund could facilitate the implementation of reforms in the medium to long term, while in the short term, it is likely that a green transition will not be considered amongst the most important issues that influence quality of life.

Economic challenges

Tourism, with an almost 20% contribution to the national GDP (by far the largest share in the EU), is a key sector within the Croatian economy. It is characterised by tourist vacations concentrated in coastal areas over the summer months. Increasing the resilience and sustainability of this sector requires investment aligned with the priorities of a green transition such as infrastructure for charging electric vehicles and waste management facilities. The new strategy for sustainable tourism is trying to make the tourism sector greener and more sustainable. However, as the current “sea

and sun” tourism model suffers from a lack of skilled workers, providing more services might be challenging.

Lack of capacity that goes beyond financial constraints tends to be an underestimated barrier to green transition. This includes a lack of suitably skilled human resources for policy-making, regulatory expertise, and also implementation of reforms. There is a shortage of technical knowledge and managerial skills for the preparation of projects along with the implementation of complex and lengthy administrative procedures. The combination of public administration fragmentation, an inefficient judiciary, and corruption all militate against facilitating the necessary investment. Thus, a green transition is not seen as a business opportunity.

The reforms are already slower than required by the EU acquis. Delays in reforms increase their already high costs. According to the LCDS, it is necessary to invest almost EUR 9 billion between 2021 and 2030 (or about 1.6% of GDP) to reduce emissions to 44.8%. In the period 2031-2050, the level of necessary investment is estimated at EUR 22.4 billion. This is much higher than was planned under the Croatian Recovery and Resilience Plan, which allocates about 40% of grants worth EUR 6.3 billion to support climate objectives. This includes i) investments of EUR 789 million in energy efficiency and post-earthquake reconstruction of buildings; and ii) EUR 728 million in sustainable mobility, notably in upgrading railway lines, autonomous electric taxis with supporting infrastructure adapted for people with disabilities, installing charging stations for electric vehicles as well as introducing zero-emission vehicles and vessels. In addition, the plan allocates EUR 658 million to low-carbon energy

transition through modernising energy infrastructure, supporting investments for the production of advanced biofuels and renewable hydrogen as well as financing innovative carbon capture and storage projects. EUR 542 million will be invested in supporting businesses for green transition and energy efficiency, supporting projects aimed at boosting the green economy, sustainable tourism, and investing in green technologies.

In addition to the overall financing gap, the capacity gap and lack of awareness that a green transition is an urgent need limit the implementation of necessary reforms and investments.

Encouraging investment in renewables, for which Croatia has a favourable geographical position, and developing innovative solutions that are economically profitable, would be the best way to dispel the fear of the high and unsustainable cost of a green transition.

Economic challenges are closely interlinked with institutional weaknesses that do not sufficiently promote business opportunities or support investments. Coupled with the financing gap and administrative barriers, they slow down necessary reforms. Addressing these issues requires strong political will and sufficient capacities that are currently not available. Thus, it is not likely that significant economic opportunities emerging from a green transition will develop in the short to medium term.

International environment

The social perception is that Croatia is too small to matter in implementing major international agreements fostering the green transition such as the Paris Agreement. Neither

does Croatia's foreign policy recognise the potential role of small countries to set and contribute to the green agenda. While former president Grabar Kitarović had a role in launching the Three Seas Initiative, which is based on common interests in developing transport, energy, and digital infrastructure connections on the EU's north-south axis, the further potential for creating coalitions for greening this connectivity is not sufficiently recognised. The Three Seas Initiative was used by Croatia to lobby for the financing of its gas infrastructure (LNG terminal). Croatian foreign policy is also quite traditional in its relations with its neighbours. Instruments and tools applied in foreign relations rely on historical grievances regarding national identity. Focusing on forward-looking solutions to regional and global problems has yet to be mainstreamed.

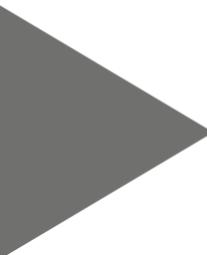
The international environment, marked with instabilities and increasing orientation towards self-sufficiency, has an ambiguous impact on the green agenda in Croatia. While it might support small-scale solutions (e.g., solarisation of family houses), the major projects requiring international cooperation prioritised by Croatia still favour traditional transport (e.g., motorways) and energy sources (gas). A change to this approach is not likely in the short to medium term.

Conclusions

Croatia relies heavily on EU funding for investments in general and green transition in particular. On the one hand, a green transition is not (yet) perceived as an urgent policy issue in Croatia and has not yet adopted the goal of climate neutrality. On the other hand, in line with the EU *acquis* (e.g.,

Taxonomy regulation or the Do No Significant Harm principle), issues related to a green transition should be considered in all projects and reforms as a horizontal issue. As the absorption of EU funding is among the priorities of the Government, environmental sustainability is likely to get more attention. However, an approach that antagonises economic growth and environmental protection is still mainstream. The decoupling of economic growth from climate protection and the climate-friendly and profit-generating green industry are still considered utopian. As economic issues are seen as the most pressing issue, the green transition is considered as a formal criterion rather than an urgent and genuine domestic interest. Such perceptions make implementation difficult.

Raising capacity and awareness that the green transition can contribute to political and economic stability, provide business opportunities, and increase security is key. In Croatia, this is not yet the case. Green transition topics do not mobilize voters, nor raise emotions. Reform requires commitment and capacity, people need to care, and the government must recognise what is at stake beyond its term of office.



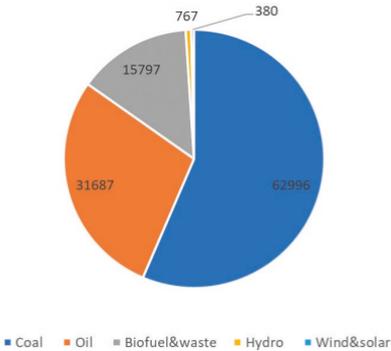
Marta Szpala

EU Green Deal in Kosovo

Kosovo is not an EU member, but the European Green Deal, which is a new growth strategy aimed at environment-friendly development, concerns this state as well. In October 2020, during the Berlin Process summit in Sofia, the governments of all the Western Balkans countries committed to the “Green Agenda for the Western Balkans”, which is a concrete plan to expand the European Green Deal to Southeast Europe.

Energy market overview

According to data from the International Energy Agency (IEA), in 2020, the largest share of total available energy was created out of coal (56%), followed by petroleum products (28%), and biofuels (14%). Although the role of Renewable Resources – hydro, solar, and wind in energy supply is growing, it is still minimal (approx. 1%).

Chart no. 1: Total energy supply by source, Kosovo in 2020 in TJ

Source: International Energy Agency, <https://www.iea.org/countries/Kosovo>

The overall level of energy supply in Kosovo more than doubled in the past two decades, from 52.8 thousand TJ in 2000 to 111.6 thousand in 2020¹. Production from fossil fuels also increased significantly – in the case of coal by 55%, and in the case of oil by 130%.

Biomass (mainly wood) still represents the largest share of final energy consumption in Kosovo households (61%), followed by electricity (35%). Heat from district heating, which is only available in four municipalities (Prishtina, Gjakova, Mitrovica, and Zvenčan) represents 2% each of the final energy consumption in households, while the share of oil derivatives (mainly diesel oil) is also 2%² (EnC 2021b). According to official data, the use of coal for heating is minimal (less than 1%). Kosovo does not have any physical gas

¹ International Energy Agency, *Kosovo*, <https://www.iea.org/countries/Kosovo> [27.05.2022].

² M. Ban et al., *Study on Addressing Energy Poverty in the Energy Community Contracting Parties Vienna*, Energy Community Secretariat, 2021, https://www.energy-community.org/dam/jcr:f201fefcd-3281-4a1f-94f9-23c3fce4bbf0/DOOREIHP_poverty_122021.pdf [1.07.2022].

infrastructure and there is no widespread consumption of natural gas. Compressed natural gas and LPG are used in low volumes.

Electricity generation in Kosovo is heavily dependent on two ageing lignite plants (Kosovo A and Kosovo B). The total installed capacity in Kosovo is 1,537 MW and 84% of this is lignite based. Kosovo A, with three available units and total power of 610 MWe was opened in 1962. Kosovo B, with two units and total power of 678 MWe nominal generation capacity, was opened in 1983³. Both these thermal power plants (TPP) are located in Obiliq near Prishtina. Fuel for the TPPs (lignite) is procured in open-pit lignite mines in Sibovc Southwest and Sitnica, located in the vicinity of the TPPs. Kosovo has very large lignite resources estimated at 12.5 billion tonnes, the second largest in Europe.

TPPs are the main contributors to air pollution and sources of dust, nitrogen oxide (NO_x), and sulphur dioxide (SO₂) emissions, and are behind Kosovo's continuous breaching of the pollution ceilings included in the draft National Emissions Reduction Plan (NERP) for any of the aforementioned pollutants, by a large margin. Dust emissions are the biggest problem for Kosovo, and in 2021, were 4.4 times above the national ceiling, mainly due to emissions from Kosovo B, which alone breached the national dust ceiling in 2021 by nearly 4 times (3.99), releasing a total of 5,440 tones of dust

³ European Commission, Instrument for Pre-accession Assistance (IPA II) 2014-2020. KOSOVO* EU Support to clean air in Kosovo – Phase 2, https://ec.europa.eu/neighbourhood-enlargement/system/files/2019-08/ipa_2019_part_i_041707.01_eu_support_to_clean_air_in_kosovo_-_phase_2.pdf [1.07.2022].

into the atmosphere⁴. Unit B1 emitted 6.75 times above its individual ceiling, making it the country's worst emitter, and the second worst in the region. Both thermal power plants have already exceeded their recommended lifetimes and large investments would be needed for their rehabilitation and modernization in order to bring them closer to the required environmental standards.

In recent years, the share of renewable energy sources (RES) in Kosovo's electricity production has increased moderately to 6.3%, provided mainly by hydro sources and wind plants, and to a lesser extent by solar. In 2018, Kosovo commissioned its first major wind farm, the 32 MW Kitka plant, and in 2022, the wind energy park "Selac Windpark" in the villages of Selac and Bajgora, with an installed capacity of 105 megawatts per hour, was inaugurated. By the end of 2020, only 10 MW of solar photovoltaics had been installed. Kosovo has the lowest hydropower potential in the region. As for solar and wind power in Kosovo, different sources estimate different potential. However, Kosovo reached the national RES target of a 25% share of energy from renewable resources in 2019, although this was mainly due to a revision of the biomass consumption data.

The electricity demand in Kosovo is growing, mainly due to the growth in the household sector using electricity for heating. In the industrial sector, the energy demand has been stable for the last decade. Distribution losses have decreased in recent years (technical loss down to appx. 12.5%)

⁴ CEE Bankwatch Network, *Comply or Close. How Western Balkan coal plants breach air pollution laws and cause deaths and what governments must do about it*, September 2021, <https://www.complyorclose.org/wp-content/uploads/2021/09/En-COMPLY-OR-CLOSE-web.pdf> [1.07.2022]

but they still are significantly higher than the EU average (6-8%). Per capita emissions in Kosovo are relatively low due to the small share of manufacturing in GDP. However, lignite-based electricity generation is the main contributor to greenhouse gas (GHG) emissions in Kosovo and electricity generation is a major reason for the economy's high carbon intensity as measured by carbon emissions per unit of output. Additionally, households that burn coal and wood for heat as well as old cars and low-quality car fuel also contribute to air pollution. Despite growing electricity demand, produced in coal thermal power plants, Kosovo was able to decrease the level of emissions by 3.6% in 2019 in comparison to 2010⁵. Kosovo reached the national RES target with gross final consumption of energy of 25% share in 2019. However, this was achieved mainly due to a revision of the biomass consumption data. Growing electricity production interruptions in TPPs contributed to an increase in the share of imports in the total energy demand to 19.04 % in 2021 from 13.61% in 2020. Total electricity demand at the country level is mostly covered by local generation. However, due to the low flexibility of the generation at peak time and low demand during the off-peak period, there is a need for import and export respectively⁶.

⁵ Eurostat, *Enlargement etates – environment statistics*, March 2022, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Enlargement_countries_-_environment_statistics#Greenhouse_gas_and_carbon_dioxide_emissions [2.07.2022].

⁶ Energy Regulatory Office of the Republic of Kosovo, *Statement of Security of Supply for Kosovo (Electricity, Natural Gas and Oil)*, 2019, [http://ero-ks.org/2019/Publikimet/Deklarate_mbi_Sigurine_e_Furnizimit_ne_Kosove\(energji_elektrike_gaz_natyror_nafte\)ZRRR_31_07_2019_eng.pdf](http://ero-ks.org/2019/Publikimet/Deklarate_mbi_Sigurine_e_Furnizimit_ne_Kosove(energji_elektrike_gaz_natyror_nafte)ZRRR_31_07_2019_eng.pdf) [2.07.2022].

Relevant stakeholders

The Ministry of Economic Development (MED) is the ministry responsible for the energy sector in the country within the framework of the current government. The MED is the main institution drafting the legislation, policies, strategies, and plans for Kosovo's energy sector as well as overseeing their implementation in the area of energy and mining. It also monitors the energy system, including emergencies related to the security of the energy supply, and promotes the implementation of technical rules and standards in accordance with international standards⁷. The MED is also responsible for coordinating donor assistance. The Aid Management Platform, established with EU support, is used as the main tool for monitoring donor activities. The Donor Consultation Meeting (DCM) is chaired by the MED and includes the EU Member States, the EU institution, and other bilateral and multilateral donors (USAID, BMZ/GIZ, KfW, World Bank, UN agencies, etc.)⁸. To a lesser extent, the Ministry of Environment, Spatial Planning and Infrastructure (MESPI) is involved in shaping energy policy as it prepares public policies, drafts legal acts, and implements them in the field of environmental protection.

The national energy regulator – the Energy Regulatory Office (ERO) is also playing an important role in the implementation of energy policy. The ERO was established in June 2004 as an independent body regulating activities in the energy sector in Kosovo, including electricity, district

⁷ Regulation no. 02/2021 on the areas of administrative responsibility of the office of the prime minister and ministers, Kosovo, <https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=39317> [27.05.2022].

⁸ European Commission, Instrument for Pre-accession Assistance...

heating, and gas in accordance with the obligations arising from the Energy Community Treaty. The responsibilities of the ERO include regulation of the energy market, approving tariffs for regulated energy services, monitoring market trade processes, and providing licenses for energy operators in Kosovo.

In 2012, the Kosovo Energy Efficiency Agency (KEEA) was established, which is responsible for promoting energy efficiency, developing the system for monitoring the implementation of the National Energy Efficiency Action Plan, and achievement of indicative targets for energy saving in all sectors of energy consumption. The KEEA is an executive institution under the Ministry of Economic Development. Moreover, in 2019, the Kosovo Energy Efficiency Fund (KEEF) was established. The KEEF is responsible for attracting and managing financial resources to finance and implement investment projects in the area of Energy Efficiency. Another institution important for energy transition is the Kosovo Environmental Protection Agency (KEPA), responsible for collecting data and monitoring environmental indicators (including gas emissions) and reporting them to the European Environment Agency.

Public and private companies are also playing an important role in shaping the pace of the energy transformation of Kosovo. The Kosovo Transmission System and Market Operator (KOSTT) public company is a utility responsible for electricity transmission in Kosovo. KOSTT is planning, developing, maintaining, and operating the Kosovo electricity transmission system and providing non-discriminatory open access to it. The public company Kosovo Energy Corporation (KEK) generates 90% of the country's electricity, com-

plemented by some small private operators. The supply and distribution system is dominated by the Kosovo Company for Supply and Energy (KESCO) and Kosovo Energy Distribution Services (KEDS), respectively. Both companies are owned by the Turkish enterprise Çalik-Limak Holding, which won the tender for the privatization of Kosovo Electricity Distribution and Supply in 2013. The unbundling of KEDS in late 2014, resulted in the division of the company into KEDS responsible for distribution and KESCO responsible for supply. KESCO holds a 100% share of the retail market. There are a few other licensed operators, but they cannot compete against the low electricity prices that KEK provides to KEDS due to the so-called Bulk Agreement, which was part of the privatization of KEDS/KESCO. Therefore, despite privatization and unbundling in the electricity sector, there is no true competition in the local electricity market.

Legal framework

Kosovo, as a member of the Energy Community, is obliged to transpose and implement EU directives relevant to renewable energy and energy efficiency. This commitment is also reflected in the Stabilisation and Association Agreement (SAA) and the already-mentioned Green Agenda for the Western Balkans. This means that Kosovo is setting targets and monitoring their implementation. However, the legislation defining national systems for policies, measures, and projections in many areas crucial for energy transformation is missing.

The key documents concerning the development of the energy sector are the Energy Strategy 2017-2026 and National Development Strategy 2016-2021, both of which aim

at the security of energy supply and environmental protection and provide an ambitious range of policy initiatives. However, the implementation of them is lacking. The objectives of energy transformation were drafted and identified with the cooperation of the Energy Community Secretariat so as to align the goals of the reforms with EU standards and directives.

The Government of Kosovo adopted the National Emission Reduction Plan (NERP) in May 2018 in line with the terms of the Energy Community Treaty. The document (which is still a draft) includes, among other things, the limits on emissions and deadlines to meet these targets. The limits on emissions of dust and NO_x are to be fulfilled by 1 January 2023, while the SO_x emission limits are to be fulfilled by 1 January 2028. However, achieving this goal is impossible. Moreover, the Energy Community Secretariat opened an infringement procedure due to the country's failure to comply with the emission ceilings in the NERP for the reporting years 2018 and 2019.

The Kosovo Environmental Strategy (KES) and National Environmental Action Plan (NEAP) 2011-2015 have a list of long-term objectives for environmental protection among which is reducing pollutant emissions, including environmental degradation and damage.

Discourse on the green transition

Until very recently, the issue of a green transition was neither a priority for the governments in Kosovo nor the subject of any real political debate. Due to a lack of proper planning and insufficient investment, dependence on old lignite-based electricity generation capacities was maintained

and environmental problems in Kosovo accumulated over decades of uncontrolled increased construction, traffic pollution, and household heating during the winter. However, the energy policy debate was focused on providing cheap energy for consumers. This is because energy poverty is widespread in Kosovo despite having one of lowest prices of electric energy among Western Balkans Countries⁹. According to the assessment of the Energy Community, up to 40% of the population can be considered energy-poor in Kosovo. Therefore, as Kosovo has huge lignite reserves, for more than a decade, successive Kosovo governments planned to build a new 500 MW lignite plant, Kosova e Re or New Kosovo¹⁰, despite the environmental concerns. This project was supposed to solve the problem of chronic electricity shortages in Kosovo and was seen as the least-cost electricity option for Kosovo. Years of protests by local NGOs and the withdrawal of financial institutions from financing coal investments¹¹, combined with the hardening of the EU's attitude towards carbon power generation, have resulted in the cancelling of this project in 2020. Previous governments were intensively promoting plans for a small hydropower plant to meet the country's 2020 renewable energy target. In 2013, it planned a totally unrealistic 240 MW of small hydropower plants by 2020. Since Kosovo's water resources are very limited, this

⁹ Energy Community, Preliminary assessment of share of households in poverty, December 2021, <https://www.energy-community.org/regionalinitiatives/Transition/poverty.html> [27.05.2022].

¹⁰ For more information about the project, check Bank Watch: *Kosova e Re lignite power plant, Kosovo*, <https://bankwatch.org/project/kosova-e-re-lignite-power-plant-kosovo> [27.05.2022]

¹¹ P. Gallop, *EBRD confirms it will not finance New Kosovo coal plant*, CEE Bankwatch Network, 13 December 2018, <https://bankwatch.org/blog/ebird-confirms-it-will-not-finance-new-kosovo-coal-plant> [2.07.2022].

project provoked numerous public protests¹² due to the detrimental environmental impact of these installations reported in various documents. These investments were driven by generous feed-in tariffs favouring small hydropower plants. Therefore, Kosovo's Regulatory Office terminated the support scheme for new plants based on feed-in tariffs in 2020. Previous governments also promoted and supported the inclusion of Kosovo in the regional natural gas infrastructure. The politicians argued that taking into account a lower carbon footprint and the flexibility of gas as a backup source, the developing of gas installations would ensure the stability of the energy system and speed up the development of RES. Such an approach was also supported by the US and different international institutions. However, since there is no gas infrastructure, such an endeavour would require huge investment and their cost-effectiveness is questionable.

Withdrawal from coal and small hydro-power plant projects has opened up the possibility of a real debate on changing the energy mix and investing in new environmentally friendly production capacities. Additionally, prime minister Albin Kurti's government took office following early parliamentary elections in February 2021. Unlike previous governments, this cabinet is committed to the transformation of Kosovo's energy system, decarbonization, and development of renewable energy sources (RES)¹³. This government has

¹² F. Bytyci, *Divided Kosovo mountain village unites to fight hydropower plant*, Reuters, 11 October 2019, <https://www.reuters.com/article/us-kosovo-environment-protest-idUSKB-N1WQ21H> [2.07.2022].

¹³ Energy Transition, *Can Kosovo's new government improve its environmental record?*, The Global Energiewende, 28 September 2021, <https://energytransition.org/2021/09/can-kosovos-new-government-improve-its-environmental-record/> [2.07.2022].

maintained the decision about coal and hydro sources and decided to shelve the work on a gas pipeline connection to Macedonia North/Greece and Albania¹⁴. It is now working on a new Energy Strategy (currently in public consultation); a support system for and law on renewable energy are also under preparation. Moreover, since 2021, the Kosovo government has been working on a new integrated National Energy and Climate Plan 2021-2030 (NECP). This document sets new targets for energy efficiency, renewable energy, and greenhouse gas emissions as well as the transformation of the energy sector. Simultaneously, the government is working on a law on climate change, which is supposed to be adopted by the end of 2022.

Strategic objective

Kosovo is in the process of revising its Energy Strategy 2021-2030 and developing its National Energy and Climate Plan 2021-2030 with an outlook up to 2050. The draft of a new Energy Strategy 2022-2031 was published in June 2022.

As stated in the document, a CO₂-free energy sector by 2050, integrated into the pan-European market, ensuring energy security and affordability for citizens is the strategic goal of the government of Kosovo. To achieve this, the government is committed to integrating Kosovo's power system into the regional and pan-European market and developing renewable energy sources (RES) to ensure system independence. In doing so, market integration with the Re-

¹⁴ I. Todorović, *Kosovo* shelves US-backed gas pipeline project*, Balkan Green Energy News, 5 October 2021, <https://balkangreenenergynews.com/kosovo-shelves-us-backed-gas-pipeline-project/> [2.07.2022].

public of Albania is a high priority as the energy systems of the two countries are complementary with thermal in Kosovo and hydro in Albania. Kosovo does not have flexible and rapid response generating units to serve as a system backup capacity, while Albania has many such units¹⁵. The Government of the Republic of Kosovo is also committed to making this transformation of the energy sector bring social justice, and ensure that the most vulnerable groups will have access to affordable energy.

In the new strategy, the government set five strategic objectives:

- Improving system resilience
- Decarbonization and promoting renewable energy
- Increasing energy efficiency
- Strengthening regional cooperation and market functioning
- Protecting and empowering consumers.

Improving system resilience

To improve system resilience that ensures the security of supply by guaranteeing the seamless functioning of the energy system to specific goals where set:

1. Enhancing system flexibility,
2. Modernization of networks and reducing network losses,
3. Rehabilitation of existing electricity production capacities,
4. Ensuring cybersecurity of the energy sector.

¹⁵ I. Todorović, *Renewables are cornerstone of Kosovo* energy strategy through 2031*, Balkan Green Energy News, 8 June 2022, <https://balkangreenenergynews.com/renewables-are-cornerstone-of-kosovo-energy-strategy-through-2031/> [2.07.2022].

The main targets for this strategic objective are to:

- improve the quality of supply indicators: System Average Interruption Duration Index (SAIDI) by 35% and System Average Interruption Frequency Index (SAIFI) by 30% by 2031,
- launch market-based reserve services and reach at least 170 MW of flexible regulation capacity by 2031,
- decrease the transmission and distribution losses to the current EU technical loss ratios by 2031 (9%),
- refurbish two Kosovo B power plant units and at least one Kosovo A power plant unit by 2024.

A flexible system is becoming increasingly important as Kosovo pursues ambitious renewable development. Currently, dependence on nonflexible carbon installation prevents the rapid development of renewable energy sources. Therefore, the government is planning to:

Install at least 170 MW of battery storage capacity in its power system by 2031

Strengthen cooperation with Albania on ancillary services

Integrate flexibility providers into the system once Albanian Power Exchange (ALPEX) is fully functional (medium term)

Kosovo will join the common EU balancing platforms (MARI, PICASSO, and IGCC) (long-term goal)

Modernization of the electrical grid is an important element of the transformation of the energy system aimed at enabling it to accommodate large variable generation capacities, reducing the high level of network losses, and consequently reducing gross electricity demand.

By the end of the decade, new interconnector lines between Kosovo and Albania will be built to allow for more trading in the region and ensure the stability of the system.

Decarbonization and promoting renewable energy

This strategic objective is addressed by 3 specific objectives:

1. Gradual implementation of carbon pricing,
2. Promoting renewable energy in the electricity generation mix,
3. Promoting the use of renewable energy in heating.

The main targets for this objective are to:

- Complete all preparations for implementing a carbon pricing system by 2025, enabling the introduction of a carbon price which will gradually increase until Kosovo's integration into the pan-European market and the EU's Emissions Trading System (ETS),
 - Reduce GHG emissions in the power sector by at least 32% by 2031,
 - Cover at least 35% of electricity consumption by RES by 2031,
 - Develop new wind and solar photovoltaic (PV) RES electricity capacities, to reach a total installed RES capacity of 1,400 MW (including 100 MW of prosumer capacity) by 2031, with the option of raising the target if that is feasible.
-

Increasing energy efficiency

This strategic objective is addressed by 2 specific goals:

- Improving the energy efficiency of buildings,
- Promotion of efficient cogeneration and efficient district heating systems.

The main targets for this strategic objective are to:

- Limit the final energy consumption in Kosovo to the level of 1,877 ktoe in 2031,
- Achieve cumulative energy savings of 283 ktoe in buildings including public, private, and commercial by 2031,
- Construct 150 Near Zero Energy Buildings by 2031.

Strengthening regional cooperation and market functioning

This strategic objective is addressed by 3 specific goals:

1. Strengthening regional cooperation,
2. Removing the barriers to effective market functioning,
3. Training in energy-related fields and women's inclusion.

The main targets for this strategic objective are to:

- Achieve market integration with Albania in 2023,
- Join the pan-European market area in 2030,
- Gradually phase out the Bulk Supply Agreement, starting from 2025 at the latest,
- Increase the number of graduates in energy-related fields and ensure that at least 25% of employees in the sector are women, by 2031.

Protecting and empowering consumers

This strategic objective is addressed by 3 specific goals:

1. Protecting vulnerable consumers,
2. Empowering all consumers,
3. Preserving human health and the environment.

The main targets for this strategic objective are to:

- Revise the current price-support scheme for the new vulnerable consumers program by 2024, and further advance it to a means-tested scheme linked to the reformed social assistance scheme,
- Introduce at least 2 new energy-related schemes for vulnerable consumers (e.g., energy efficiency, heating solutions, solar panels, etc.) by 2024, and 4 by 2031,
- Introduce more than 2 programs supporting community projects in efficiency and self-consumption by 2024, and more than 5 by 2031,
- Implement at least 9 energy-related awareness and information campaigns annually,
- Develop a fully functioning Price Comparison Tool by 2024 to ensure diversity and comparability of services offered to consumers.

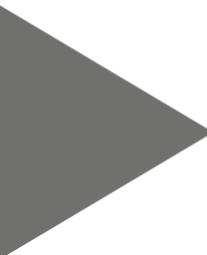
Source: Ministry of Economy, Republic of Kosovo, Energy strategy 2022-2031

Challenges ahead

Due to a lack of proper planning and insufficient investment over the last decades, the energy transition in Kosovo will be particularly challenging. The main problem with the energy system is its strong dependency on old, unreliable, and inflexible lignite-based electricity generation capacities. However, TPPs can provide cheap electricity, which in poorer parts of Kosovar society is very important. Moreover, huge lignite reserves are still seen by many politicians as a valuable source of cheap energy, which also ensures energy independence. Additionally, people working in the coal and TTP sectors are also resisting transition as no interim solutions have been presented to them. For many years, politicians lacked the political courage to face the fact that coal is increasingly unfeasible. The second issue is high energy consumption (and, therefore, energy-related expenditure) due to high network losses, inefficient buildings, and outdated technologies in both the residential and commercial sectors. The third issue is the high reliance on individual household heating systems based on electricity or inefficient coal or wood burning equipment. Therefore, a real transformation of Kosovo's energy system requires huge financial resources, which the country simply does not have. It also does not have access to the generous EU financial programs for energy transition (the support for Energy Transition in the Western Balkans countries is significantly lower). In pursuing energy transition, Kosovo is strongly dependent on the will and engagement of foreign donors, whose priorities do not always match the needs of the country. Overall, the shortage of funding is one of the major obstacles in pursuing energy transition.

Lack of institutional planning and management capacity is a second important obstacle to a successful energy transition, which requires cooperation and coordination of multiple actors and stakeholders. As for now, the implementation of EU regulation is way behind schedule mainly due to a lack of expertise not only in the ministries but also in different institutions responsible for the energy market and in private companies. These institutions are usually poorly funded, with not enough staff.

High market concentration at both the wholesale and retail levels can also be a problem for rapid changes. Private companies that have a monopolistic position in the market are not interested in changes that might weaken this position.



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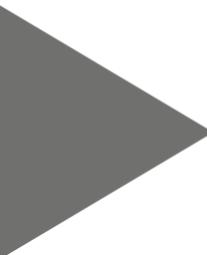
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The green transition of the EU and its economy is reflected in the so-called EU Green Deal, which in turn is set to become one of the most important vectors of EU policy for the upcoming decade.

For the countries of Southeast Europe, the EU Green Deal and the subsequent green transition will constitute both a challenge and an opportunity. Lack of key elements, such as funds or a legislative framework encouraging a research and development mode of business, know-how (of natural scientific knowledge as well as engineering expertise concerning the various technical solutions), and competent and efficient public administration, constitute major disadvantages. These factors have already proved to be key circumstances leading to significant delays in some major reforms.

Jan Muś

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