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Da li nam treba više ambicije za tranziciju na obnovljive izvore u Srbiji? Temelji upravljanja i planiranja energije

Do We Need More Ambition for the Renewable Energy Transition in Serbia? Foundations of Energy Governance and Planning

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Rezime - Obnovljiva energija je predložena kao primarni pristup za dekarbonizaciju energetskog sistema i razdvajanje potrošnje energije od emisije gasova sa efektom staklene bašte, kako u energetskoj literaturi, tako i u praksi. Evropska unija je prepoznala izazov i postavila tranziciju na obnovljive izvore energije visoko na dnevni red svojih politike, sa najnovijom ambicijom da do 2050. godine bude ugljenično-neutralna ekonomija. Sa druge strane, države Zapadnog Balkana i dalje zavise od fosilnih goriva kao jednog od glavnih izvora u energetskom miksu. Ambicija za tranziciju na obnovljive izvore energije u državama Zapadnog Balkana, uključujući i Srbiju, uglavnom je vođena težnjama ka njihovoj evropskoj budućnosti. Štaviše, potpisivanje Ugovora o Energetskoj zajednici pružilo je institucionalne i pravne alate kako ugovornim stranama, tako i Evropskoj uniji za izgradnju zajedničkog energetskog tržišta. Ovi procesi inspirisali su mnoge autore u poslednje dve decenije da analiziraju tehničke, ekonomske, tržišne i životno-sredinske aspekte obnovljivih izvora, međutim, upravljanje i planiranje, iako identifikovani kao izazovni, izostali iz detaljnije analize. Ovaj rad ima za cilj da prikaže pregled odabrane literature i zakonodavstva o tranziciji na obnovljive izvore energije, kako bi se analizirala glavna pravna i politička postignuća, kao i ambicije za tranziciju u Srbiji. Takođe, u radu se raspravlja o lekcijama naučenim iz relevantne literature kroz prizmu upravljanja energijom i planiranja. Prvi deo rada daje pregled literature glavnih koncepata tranzicije na obnovljive izvore energije. Istorijska analiza politika i prava obnovljivih izvora energije u Evropskoj uniji, Energetskoj zajednici i Srbiji je u fokusu drugog dela. U poslednjem delu, rezimiraju se lekcije naučene iz literature za buduće upravljanje i planiranje energije kroz perspektive procesa energetskog planiranja, evaluacije politika i obrazovanja i administrativnih kapaciteta. U zaključku se ističe važnost postojećih nalaza iz literature kao budućih koraka ka ubrzanom upravljanju i planiranju energije.

Ključne reči - tranzicija na obnovljive izvore energije, energetsko upravljanje i planiranje, energetska politika i pravo, Srbija

Abstract **-** Renewable energy has been suggested as the primary approach for decarbonizing the energy system and decoupling energy consumption from greenhouse gas emissions, both in the energy literature and in practice. The European Union has acknowledged the challenge and put renewable energy transition high on the policy agenda with the latest ambition of being a carbon-neutral economy by 2050. On the other hand, Western Balkan countries are still dependent on fossil fuels as one of their primary energy mix sources. The pledge about the European future has mostly driven the renewable energy transition ambition in the Western Balkan countries, including Serbia. Moreover, signing the Energy Community Treaty provided institutional and legal tools to both Contracting Parties and the European Union to build the common energy market. These processes inspired many authors in the last two decades to analyse technical, economic, market and environmental aspects of renewables. However, the governance and planning, even though identified as challenging, have been side-lined from the analysis. This paper aims to overview the selected renewable energy transition literature and legislation to analyse the main legal and policy milestones reached so far, as well as ambition in Serbia. It also discusses the lessons learned from the related literature from energy governance and planning prism. To do so, it firstly provides a literature review of the main concepts of the renewable energy transition. Moreover, the historical analysis of renewable energy policy and legal developments in the European Union, the Energy Community and Serbia are in the second part's focus. Finally, the discussion part summarizes lessons learned from the literature for future energy governance and planning with the perspective of the energy planning process, policy evaluation, and education and administrative capacity. The article concludes by emphasizing the importance of taking the current literature findings as prospective steps to follow towards accelerated energy governance and planning.

Index terms **-** renewable energy transition, energy governance and planning, energy policy and law, Serbia

I INTRODUCTION

The production and consumption of energy based on fossil fuels are responsible for around two-thirds of global GHG emissions [1], which is the leading cause of climate change. Transition to energy from renewable non-fossil sources has been accepted both in academia [2]–[4] and among decision-makers as a way towards sustainable energy in order to address the causes and mitigate climate change.

The European Union (EU) has acknowledged the challenge and put renewable energy (RES) transition high on the policy agenda with the latest ambition of being a carbon-neutral economy by 2050, introduced in the EU Green Deal[1]. On the other hand, the Western Balkan countries[2] are still highly dependent on fossil fuels as one of the main sources of their primary energy mix. According to the Energy Community, 68.8% of the primary fuel mix in Serbia comes from solid fuels[3], while its energy sector was responsible for 80.6% of greenhouse gas emissions in 2015 [5, p. 4]. This comes with a significant burden on nature – pollution of air, water, soil, and quality of life both in Serbia [6] and beyond since pollution does not recognize state borders. What brings complexity to this topic is the renewable energy transition path of the Western Balkan countries, including Serbia, which is related to their EU future and membership in the Energy Community [7], [8].

The central hypothesis is that the renewable energy transition ambition is rising in the last two decades in the EU and the Energy Community. The article aims to answer the following questions: does and how the rise in ambition in the EU and the Energy Community influenced renewable energy transition ambition in Serbia and does Serbia need more ambition in renewables transition. With the rise of ambition, the number of scientific papers exploring the process also increased. This paper analyses the related legal and policy milestones and ambition by giving an overview of the selected renewable energy transition literature and legislation. In addition, it discusses the lessons learned from the related literature from energy governance and planning prism. In order to do so, after the methodology, the first part defines the main concepts of the renewable energy transition. Historical outline of the policy and legal developments in the European Union, the Energy Community and Serbia are in the second part's focus. Finally, the last part of this paper recaps lessons learned from the literature for future energy governance and planning and explores the following elements: energy planning process, policy evaluation and education and administrative capacity.

II METHODOLOGY

The proposed research is a qualitative content analysis with a historical and comparative approach of the renewable energy transition literature in the EU, the Energy Community and Serbia. In order to test the hypothesis and answer questions, the paper draws on an in-depth analysis of documents covering the period from the beginning of 2000s until 2020. Namely, the research is based on an analysis of Serbian national energy laws and strategies, Energy Community documents and Annual Implementation Reports, European Commission Country Reports, EU energy *acquis* documents and selected renewable energy transition literature.

Although the broader focus is on the Western Balkan region due to the regional cooperation's significance, the paper will analyse Serbia as the case country. As a representative country, Serbia has a high potential for various renewable energy source exploitation [9]–[11]. In addition, it has the highest population (6.9 million) and GDP (48.04 billion 2010 USD) among Western Balkan countries, while at the same time it has high energy intensity [12] and greenhouse gas intensity when compared to the EU [13]. Recognizing the importance of the technical, economic, environmental, and social aspects of renewable energy transition, this paper focuses on regulatory features of energy governance and planning to contribute to the renewable energy transition discussions.

III LITERATURE REVIEW

A (Renewable) energy transition and governance

The shift from the current energy system highly dependent on fossil fuels to renewable sources has been suggested as the main approach for the decarbonisation of the energy system and decoupling energy consumption from greenhouse gas emissions [14]. Countries worldwide have embraced the challenge and invested in exploring the best method for sustainable energy transition. Since this is not the first transition in the energy sector, the energy transition definitions have evolved [15, p. 112]. Although there is no universally accepted definition of 'energy transition', modern definitions fluctuate from the transformation of economies in order to reduce carbon emissions to emphasizing how developments in technology, information and practices can alter the way energy is utilized [15]. These multi-disciplinary effects of energy transition create a challenge in identifying energy transition as a concept.

Energy transition and its future directions challenge energy governance. Cherp underlines that “successful governance for energy transition should mobilise unprecedented resources, overcome tremendous inertia and ensure coordination across timescales, national energy systems and energy sectors as well as effectively interface with non-energy arenas” [16, p. 79]. The urgency of action raises the question about introducing energy governance within and beyond the national level. For this to happen, a comprehensive reform of the policy and legal

[1] For more about European Green Deal see: https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en.

[2] The Western Balkans is a political term for the region of the central and western part of the Balkan Peninsula. Apart from Albania, it consists of former Yugoslavian countries: Bosnia and Herzegovina, Montenegro, North Macedonia, Serbia, including peculiarity with Kosovo*.

* This designation is without prejudice to positions on status and is in line with UNSC 1244 and the ICJ Opinion on the Kosovo* Declaration of Independence.

[3] https://www.energy-community.org/implementation.html, Accessed 30.01.2021.

framework is required, led by a resilient and effective governance model.

The research of governance is broad and since the term is often overused, for this purpose, the following definition of governance will be used: "governance (...) refers to how humans make decisions and form institutions that craft rules shaping individual behaviour" [17, p. 21]. Literature focusing on global energy governance [16], [18] is emerging. However, dominant perspectives still seem to be technological or economic rather than energy policy and law [18]. Although technology is an integral part of the renewables transition, Gunningham emphasizes the role of energy law and governance as equally important and argues, "not only that climate change mitigation and energy policy are inextricably interlinked, but also that without effective energy law and governance the necessary transition to a low carbon economy will be all but impossible" [19, p. 120]. What ties energy transition with energy governance is ambition., The regulatory framework and the energy policy and law are setting the renewable energy deployment pace, which drives the transition forward both at the regional and national levels.

B The literature review focused on the Western Balkans and Serbia: the research gap analysis

Concerning the Western Balkan perspective, the literature has been focused on the current state of the energy systems in relation to sustainable energy development [20], renewables development trends [21] and the current state and opportunities of the renewable energy [22], [23]. When it comes to the literature in Serbia, it is analysing the renewable energy production and its progress [24], [25], the potential and value of wind energy [9], [26], potential, perspectives, techno-economic and environmental aspects of small hydropower plants [10], [27], and the potential of solar energy and incentives for solar water heating systems [11].

What the above-listed studies share is pointing to regulatory features, including the legal and institutional framework and energy governance, as one of the challenges or risks for renewables transition in the Western Balkans. However, by avoiding a close analysis of the significant role of energy regulation challenges, they are not going deep into the details of this challenge. Taking everything mentioned into consideration, governance for the purpose of this paper refers to the policy and legal framework in the energy sector as decisions that shape the ambition for the renewable energy transition.

IV Historical Overview of RES Transition in the EU, the Energy Community and Serbia

A European Union – regional influencer in renewables transition

The EU has recognized the challenge that the energy sector brings for climate change and the environment. As a result, the EU Commission has drafted policy and legislative objectives in the energy sector that all Member States follow. The ambitious goals have shaped the EU as the global leader of renewable energy through the following *acquis*[4] chronologically:

- From the introduction of the first Directive on promotion of electricity produced from renewable energy sources in the internal electricity market in 2001[5] and Directive on the promotion of the use of biofuels or other renewable fuels for transport in 2003[6],
- The recognition of the energy sector in the Lisbon Treaty[7] in 2009,
- The Renewable Energy Directive in 2009 that incorporated both electricity and transport targets[8], to
- The latest adoption of its recast version Renewable Energy Directive II[9] from 2018 as part of the Clean Energy Package.

Besides energy efficiency and decarbonisation, the transition to "energy from renewable non-fossil sources, namely wind, solar, aerothermal, geothermal, hydrothermal and ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases" [29] Article 2(a) is a core segment of the EU energy policy. In practice, renewables transition is also an important part of the national energy and climate plans, as a comprehensive planning mechanism that is combining energy and climate policy, stipulated by the Clean Energy Package[10].

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[4] *Acquis or acquis communautaire* is, as a term in the EU law, defined as: "The objectives, principles, rights and obligations contained in the Treaties and all laws and decisions adopted under them since the Communities were established, prior to the entry into force of the Lisbon Treaty", Inter Active Terminology for Europe, http://iate.europa.eu/FindTermsByLilId.do?lilId=767495&langId=en, 01 February 2021.

[5] Directive 2001/77/EC of the European Parliament and of the Council of 27 September 2001 on the promotion of electricity produced from renewable energy sources in the internal electricity market. For more: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32001L0077.

[6] Directive 2003/30/EC of the European Parliament and of the Council of 8 May 2003 on the promotion of the use of biofuels or other renewable fuels for transport. For more: https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex%3A32003L0030.

[7] Article 176 A of the Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community, signed at Lisbon, 13 December 2007. For more: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A12007L%2FTXT.

[8] Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC. For more: https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32009L0028.

[9] Directive 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources. For more: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2018.328.01.0082.01.ENG&toc=OJ:L:2018:328:TOC.

[10] For more on national energy and climate plans: https://ec.europa.eu/energy/topics/energy-strategy/national-energy-climate-plans_en.

What differs when being compared to the EU 2020 renewables targets that the EU imposed, is that by the Clean Energy Package rules, Member States committed to their national targets in their national energy and climate plans. This means that they assessed their progress so far, their potential, and set national trajectories that will be evaluated by the European Commission and the Member States itself during the ten years until the target year 2030.

The latest ambition comes as a part of the European Green Deal with the most ambitious goal so far for the EU – to become carbon neutral by 2050. "Clean Energy" part of the European Green Deal, among others, calls for better integration of renewables to the grid and increases cross-border and regional integration. However, in order to be carbon neutral, since it is not an isolated island, the EU also recognized external challenges. Therefore, a new push for sustainability which this Deal brings to the countries outside the EU is the Carbon Border Adjustment Mechanism[11]. This initiative puts carbon price on certain goods imported from outside the EU to prevent carbon leakages. More details about this initiative's content are expected erelong, but it is undoubtedly a vital tool to be consider by Contracting Parties of the Energy Community when planning their renewables transition.

Accordingly, all this has pressured energy sectors within the Member States to increase transparency and competition and fight climate change while creating a low-carbon economy. Moreover, considering the EU enlargement policy, it also brings specific obligation and pressure to the candidate countries, to take the same path. Finally, under the European Green Deal, a separate act is envisaged to deal with the Western Balkan countries – Green Agenda for Western Balkan together with the Economic and Investment Plan for the Western Balkan. The latter was presented by EU Commissioner for Neighbourhood and Enlargement, as the plan to: "... mobilise up to €9 billion of funding for investment flagships in the areas of transport, energy, green and digital transition, to create sustainable growth and jobs" [30]. Moreover, guidelines adopted at the Sofia Summit in November 2020 identify renewables transition as one of the ten investment flagships supported by the EU [31].

B Renewable energy transition in the Balkan dimension: role of the Energy Community

To administer complex topics such as renewable energy transition in the EU neighbourhood, the EU initiated the idea about the regional cooperation among the Western Balkan countries and targeted the energy sector as a common denominator. Namely, the energy sector that united EU countries back in the 1950s was pulled out as a common ground for the initial step in the regional cooperation in the Western Balkans. Boromisa writes the idea about " 'Balkan dimension' that is not a purely transitory arrangement, an EU waiting room, but a regionally-owned policy whose value [could] be recognised in the region, regardless of institutional ties with the EU" [32, pp. 126–127]. However, as Boromisa notes, "[i]n the process of the creation of the Energy Community, potential EU membership has served as an incentive to join it. The EU, which launched the idea, has had sufficient means to ensure participation, at least at a formal level" [32, p. 118] or as Hunt and Karova explain it, the "carrot of accession to the EU appears as a force to re-merge formerly integrated countries" [33, p. 59].

The idea of EU enlargement united the Western Balkan countries to sign the first joint treaty after the geopolitical turbulence at the end of the 20th century – The Treaty establishing the Energy Community [34]. The Treaty has been institutionalized in the form of the Energy Community with the aim to create an "integrated pan-European energy market" which would involve EU member states and EnC contracting parties[12]. The commitment to improve the environmental situation in relation to renewable energy sources is proclaimed already in the Preamble and in Article 2 of the Treaty as one of the Energy Community's tasks. In addition, there is a devoted chapter V in the Treaty, where the concrete piece of the renewables *acquis* is defined as an obligation to be transposed by the Contracting Parties. Before 2012, it was the two ancestors of the Renewables Directives, and after 2012, it has been Directive 2009/28/EC on the promotion of the use of energy from renewable sources.

By ratifying the Energy Community Treaty as one of the "pre-steps" for the EU integration process, the Western Balkan countries embraced renewable energy transition and agreed to reach a particular percentage of final energy consumption from renewables by 2020. Besides the challenge of meeting the renewables goal for the Energy Community governance model to be implemented, a comprehensive and consistent reform of the national governance framework has been required. This has initiated the introduction of renewable energy into the policy and legislation frameworks, such as revision of energy law or the adoption of renewable energy action plans and related secondary legislation. In parallel, institutional infrastructure has been built to support the process, such as establishing the national regulator authority, establishing renewables units within the ministry in charge of energy, and raising the administration's implementation capacity [7], [35].

However, when renewables targets were determined back in 2015, they seemed challenging but still reachable for Western Balkan countries. Nevertheless, according to the latest Energy Community Annual Implementation Report from 2020, which is reporting data from 2019, only Montenegro already met its 2020 renewable energy targets, while other countries are still struggling to increase the renewables share in their national energy mix [36].

[11] For more see: Vajda Peter, Aleksić Varvara. "Carbon border adjustment mechanism: The case of the Energy Community" In *Future of International Economic Law and the Rule of Law*, edited by Rafael Leal-Arcas, Eliva Press, 2020. pp. 187-198.

[12] Currently the Energy Community has nine contracting parties – Albania, Bosnia and Herzegovina, Kosovo*, North Macedonia, Georgia, Moldova, Montenegro, Serbia and Ukraine, and the EU, as the party to the Energy Community Treaty, represented by the European Commission.

This underachievement of the renewables transition in the Western Balkans, together with the fast-growing ambitions in the EU, especially after the adoption of the Clean energy package at the end of 2018, caused a switch from hard law to soft law measures in the Energy Community. Namely, the Ministerial Council of the Energy Community adopted Recommendations for the adoption of the National Climate and Energy Plans [37] and respective Policy Guidelines [38] to be also incorporated in its Contracting Parties. Since recommendation and guidelines are not obligatory legal acts according to the Energy Community Treaty, this act is considered a soft law measure [39]. However, the question remains if the hard law measures (decisions which are obligatory acts) have not supported Energy Community Contracting Parties meeting 2020 renewables targets, would the soft law succeed. The process of drafting the 2030 renewables goals in the Energy Community is ongoing and it would also be interesting to see if and what will be the measures against countries that have not met their 2020 goal.

C Serbia as the case country

The strategic and legal approach to renewables in Serbia

Less than a year before the Energy Community Treaty's ratification [40], Serbia adopted the Energy Development Strategy in 2005 [41] with the central premise to align its energy development with its European integration path. Besides the fossil fuels and the large hydropower plants as hydro potential, which is at the time already exploited in Serbia, the Strategy also recognizes the significant potential of renewable sources. Therefore, the use of renewable energy sources is one of the goals and priorities set by the Strategy. The Strategy prompts a variety of measures such as financial incentives and the adoption of programs to frame renewable energy development and give the Energy Agency a task to promote renewable energy projects. However, all these could still be considered a more declarative than a substantive commitment to renewables since the Strategy from 2005 does not set any significant quantitative developments.

A second step, which comes as a direct obligation from the Energy Community *acquis*, is adopting the most important renewables related strategic document in Serbia, the National Renewable Energy Action Plan [42]. Adopted in 2013, besides a legal commitment to the concrete goal of 27% of renewables in final consumption by 2020 and actions to reach it, the Action Plan aims to go a step further and facilitate new investments in the renewables. Serbian ministry responsible for energy also has an obligation to monitor and report on the implementation of the Renewable Energy Action Plan objectives to the Government and the Energy Community. Finally, if there are deviations from the Action Plan dynamics, the legislation allows for new measures that would contribute to achieving the targets within a reasonable time.

In 2015, ten years after the previous, the new Serbian Energy Strategy was adopted for the ten years, but with projections until 2030 [43]. In comparison to the earlier strategy, this one manifests clear commitment towards a sustainable energy system while at the same time foresees sustainability as one of the biggest challenges for the future. Besides aligning the energy strategy to the commitments towards the EU and Energy Community, it also recognizes the potential of renewables sources in more detail and sets sustainable energy transition as one of the top priorities of the Serbian energy sector. The Strategy goes into more details of renewable energy sources use and prioritizes actions already set in National Renewable Energy Action Plan. Finally, the Program of Energy Strategy implementation from 2017 until 2023 is adopted in 2017, which has completed the strategy framework for renewables in Serbia by introducing concrete measures, activities, indicators and list of particular projects envisaged for the Energy Strategy implementation.

When it comes to legislation, the Law on Elektroprivreda from 1991 [44] besides regulating fossil fuels and large hydro, does not recognize renewable energy sources. However, from 2000 onwards, this change as Serbia adopted three energy laws, in 2004 [45], in 2011 [46] and the latest in 2014[47]. Although all of them recognize renewable energy sources, the ones from 2011 and 2014 go beyond definition and dedicate a separate section to this topic. The Energy Law from 2014 in practice transposes the EU Third Energy Package and for this, Serbia was praised as the first from the Contracting Parties to make such an accomplishment [48].

Indeed, the law which initiated all mentioned strategic and legal development of renewable energy in Serbia is the Law on ratification of the Treaty Establishing the Energy Community [40]. Moreover, it introduced a particular supranational energy governance level [49], which is unique in the Western Balkan countries' EU integration process. By ratifying the Energy Community Treaty, Serbia committed not only to the renewables target but also to the transposition of the current EU legislation at the national level. One example of this is unbundling in the electricity sector, which resulted in the separation of the production, transmission and distribution of the electricity into individual legal entities.

Renewables transition in Serbia: ambitious or not ambitious enough?

When the above policy and legal framework in Serbia are analysed, the elevation in renewables transition is evident. In both strategy and legal documents, the development of renewable energy from a concept to the precise mechanisms of incentives in the form of feed-in tariffs and quotas for renewables technology, activities such as adopting the secondary legislation or projects like wind parks is envisaged. The evolution is also obvious in both Energy Community[13] and European Commission Reports[14], which are focusing on

[13] Energy Community, Secretariat's past reports, for more see: https://www.energy-community.org/implementation/IR2020/reports.html

[14] European Commission, European Neighbourhood Policy and Enlargement Negotiations, Serbia, for more see: https://ec.europa.eu/neighbourhood-enlargement/countries/detailed-country-information/serbia_en

Serbia. Finally, the progress is evident, especially with the latest draft package of energy legislation covering energy efficiency, mining and renewable energy in separate legal acts[15] introduced in 2021. The latest is not only the opportunity to align the renewables ambitions with its potential, but it is also the opportunity to materialize the investment envisaged by the Green Agenda for Western Balkan together with the Economic and Investment Plan.

However, some authors believe that the existing renewables' potential for exploitation, for example, in the wind, is constrained by the legislation measures. For instance, "[t]here are a number of proposed wind power projects with an envisaged capacity of up to 2500 MW and the project documentation has been developed for 1300 MW. Within the existing feed-in tariff scheme, only 500 MW are eligible." [9, p. 30]. This leads to the conclusion that "that it [was] possible to integrate more wind than was previously envisaged with the feed-in tariff and available studies" [9, p. 35] and that the ambition could be even higher. Also, on the example of the different governments cycles, despite the renewables ambition set in 2013 remained the same until 2021, renewables' total capacity increased in between [50]. Despite the apparent ambition, whether it was conservative or not, both the literature and the Energy Community and European Commission Reports repeat the same suggestions for accelerating renewables transition in Serbia year after year. The last part is elaborating on these and the lessons learned for future energy governance and planning.

V Discussion: Lessons Learned for Future Energy Governance and Planning

Based on the literature overview, there are three areas of energy governance that authors underline as required improvements for accelerated renewables transition in Serbia. The first one is the energy planning process, the second is policy evaluation, and the third is education and administrative capacity. All three are discussed in detail in this chapter.

A Lesson 1: Energy planning – the key to success

Since the energy sector transitions last for decades and require comprehensive shifts of not only the energy but also other sectors, the energy planning process is valuable for the consistency and success of the process. Dunjic et al. recognize as one of the obstacles for increasing the market uptake of renewables in the Western Balkan countries the "lack of planning" [21, p. 1031]. What also has an impact on energy planning, especially for the renewable energy transition, is the lack of "inefficient coordination between various institution" [21, p. 1031]. The example from practice to illustrate previous is the adoption of National Energy and Climate Plans, which is forthcoming for Serbia. Both sectors, energy and climate, are crosscutting and demand the involvement of at least two ministries and regulatory agencies (responsible for environment and energy), but also other relevant institutions.

Besides institutions, the planning process should include a wide range of stakeholders such as industry representatives, civil society institutions, professional associations, and citizens. This means that successful planning involves balancing different interests and requires broad public dialogue about the directions for the energy future. Last but not least, the great challenge for energy planning is four-year election cycles. According to the Serbian legislation [47, p. Article 4], energy is being planned for at least fifteen or more years. However, the frequent change or institutions' representatives resulting from elections, increases the risk of delays or discourages the inclusive decision-making procedure.

B Lesson 2: Evaluation of policies and legislation – ambitious but still realistic targets

Long-term planning requires the process before and after the adoption of policies and legislation. Namely, the first one is an *ex-ante* assessment, which includes assessing needs and targets before the document adoption. The second one, even more important, is *ex-post* evaluation, which aims to track the challenges and obstacles in the document as such or in its implementation. Then, targeted challenges and unreached targets should be reassessed and, if needed, included in future policy legal documents. As Ilić notes,"[s]uccessful development of renewable energy sector in [Western Balkans] requires a combination of political commitment and decision making, as well as supporting mechanisms that would include well-defined government targets" [51, p. 3194]. The evaluation process is precisely the support mechanism to define ambitious but still realistic targets also in the renewable energy transition. However, even though the Serbia legislation left some space for assessing the renewables 2020 targets implementation, the alignment of related measures was not exercised in practice.

C Lesson 3: Education and administrative capacity – makes the difference in the renewables transition

Another obstacle underlined by Dunjic et al. is public acceptance of renewables. However, in the back of this challenge, Dunjic et al. recognize something more important for energy governance, "information scarcity" [21, p. 1031], which leads to the third lesson for renewables energy transition – education and administrative capacity. According to Lalic et al. "[t]he RES development is tied to a wide range of new and specific knowledge that has multi-disciplinary character, most often not covered by the traditional educational schemes and not recognized as a research priority" [51, p. 3194]. Lalić et al. continues, "[e]ducation of the professional staff is a must for carrying out expert jobs such as certification of products, authorization of renewable generators, monitoring, organization of mechanism for incremental cost distribution, etc." [51, p. 3194].

Besides in the literature, this lesson is also empathized in policy practice. Namely, energy efficiency and use of renewable resources in the education curriculum is also recognized as part of the Sustainability Charter endorsed by Western Balkan Six countries in 2016 [52]. Finally, although courses covering renewables and energy efficiency from the basic technical

[15] https://www.mre.gov.rs/

aspect are introduced in Serbia, for example, at the Faculty of Architecture and Faculty of Electrical Engineering, University of Belgrade, no courses are dealing with the broad picture of energy transition using a multi-disciplinary approach by including in addition: environmental, climate, social, governance, economic, technology, policy and law perspectives at the university level so far. On the other hand, raising education and research capacities is acknowledged as vital and thus set as a priority in both Energy Strategies from 2005 [41, p. 43] and 2015 [43, p. 28].

One of the suggestions, which is closely correlated with education, is the insufficient administrative capacity of the institutions dealing with the renewables transition. This recommendation is repeated continuously both in the Energy Community and European Commission Reports and the literature [20, p. 183]. Namely, draft Low Carbon Strategy of the Republic of Serbia estimates that for the fulfilment of measure in the energy sector, additional 19 – 28 (exact number depends on the scenario) permanent employees is required for the Strategy implementation [53, p. 28]. Though, when it comes to the existing capacities, according to the Annual Activity Report of the Ministry of Energy and Mining from 2019, Sector for Green Energy has three experts, although the employment systematization designates six expert positions [54, p. 25].

For an increase of renewable energy in the energy mix, education and administrative capacity building is a prerequisite task for both the public and private sectors. Demand for qualified experts who would be the initiators and carriers of the energy transition process, both in terms of technology and policy, legal and economic matters, are high. On the other hand, the deficiency in an administrative capacity is valuable data for analysing the renewable transition ambition since the lack of a workforce inevitably affects its planning and governance.

VI Conclusion

Although widely accepted as a tendency towards sustainable energy and an approach to mitigate climate change effects, the renewable energy transition sparked a different level of governance ambition among countries. On the one hand, the EU has set its policy and legal framework to support its ambition to become the world renewables transition leader. On the other hand, countries like Serbia, in order to follow its EU future, have followed EU dynamics when it comes to setting renewable ambition and governance. According to the analysis, the renewable energy transition ambition has risen in the last two to three decades in the EU and the Energy Community. However, when it comes to Western Balkan countries, the paper illustrates examples to show how the rise in ambition in the EU and the Energy Community influenced renewable energy transition in the case country – Serbia.

Although the EU future is one of the main drivers of the energy reforms in the Western Balkan countries, including Serbia, since the process is long and ongoing, the level of ambition is also impermanent. However, when it comes to policy and law framework to support the renewables transition, the developments are evident in the last two decades. What lacks is the final result – reaching renewables 2020 targets and raising ambition for further renewables development. Nevertheless, despite stagnation in renewables ambition in the Western Balkans, the Green Agenda and the Economic and Investment Plan have the potential to bring Western Balkan countries, including Serbia, back to the sustainable energy track.

With more than 20 years of distance, the "carrot and stick" energy diplomacy of the EU towards the Western Balkan countries, including Serbia, brought development within the renewable energy sector. What comes as a question is would this be the same without the Energy Community and the EU enlargement. In addition, there is an open question of the nature of future measures – soft or hard law – of the EU and Energy Community towards the Western Balkan countries. For these analyses, factors other than policy and law should be taken into consideration. Therefore, these could be directions for further research.

Last but not least, when it comes to the ambition from the energy governance and planning perspective, the paper recognizes and elaborates on three suggestions from the literature that are repeating as a foundation – energy planning process, policy evaluation and education and administrative capacity. Finally, the emphasis is on using the existing literature outcomes for future energy governance and planning. Namely, the literature does not lack the theoretical and practical solutions for the successful renewable energy transition. On the contrary, its findings should be considered as prospective steps towards accelerated renewables transition.

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