

Exploring Energy Justice Concerns in the Energy Transition of Kosovo

A Qualitative Analysis of Governance and Challenges in the Implementation of Renewable Energy Technologies

Eda Abedin

Master Thesis Series in Environmental Studies and Sustainability Science,
No 2023:024

A thesis submitted in partial fulfillment of the requirements of Lund University
International Master's Programme in Environmental Studies and Sustainability Science
(30hp/credits)



LUCSUS

Lund University Centre for
Sustainability Studies



LUND
UNIVERSITY

Exploring Energy Justice Concerns in the Energy Transition of Kosovo

A Qualitative Analysis of Governance and Challenges in the Implementation of
Renewable Energy Technologies

Eda Belgin Abedin

A thesis submitted in partial fulfillment of the requirements of Lund University International
Master's Programme in Environmental Studies and Sustainability Science

Submitted May 2023

Supervisor: Maryam Nastar, LUCSUS, Lund University

Empty Page

Abstract

The advancement of global warming and climate change are viewed as catalysts for the energy transition, which is not only technological, but also embedded in broader socio-ecological and political dynamics. Decarbonizing Kosovo, a country heavily reliant on coal production, presents major challenges. Using qualitative interviews with stakeholders of the energy transition, this thesis examines the governance, technological challenges, social and environmental implications of the energy transition in Kosovo through the lens of energy justice. Key findings suggest that energy transition is dependent on international investments. Thus, an increase in electricity prices may exacerbate energy poverty. Consequently, the lack of investments, reliance on coal and land ownership conflicts pose obstacles, reaching the ambitious goals of the Energy Strategy 2022-2031. Finally, Energy Justice is not widely understood in Kosovo, highlighting the need for a greater integration into energy transition policies.

Keywords: Just Energy Transition, Energy Justice, Governance, Challenges, Renewable energy technologies, Kosovo

Word count: 11 852 words

Acknowledgements

First, I would like to thank my family and friends for always supporting me throughout this master's program and my wish to study in Sweden. You are my rock that I can always come back to and count on. You supported me throughout this whole time with the ups and downs of this program but also the rollercoaster of my personal life, overcoming my personal fears and discovering new sides and versions of myself. Because of all of you I am able to achieve all these goals. Therefore, thank you Anncim, Babiskom, Engin, Ajshe, Antonia, Denise, Doygu for being there for me.

A special thanks goes to my parents. My dad Ali, for being this free-spirit soul who always inspired me to learn new skills constantly. We both know how much this educational path means to me and how achieving this, makes us very proud. My mom Ixhrane (Canni) for showing me what consistency, perseverance and willingness represent. Both coming from very little in Kosovo, building a very sheltered home in Hamburg, enabling my brother and me the best possibilities for our personal pathways. I cannot be more grateful that they took these risks.

Next, I would like to thank all the people in Kosovo we had the chance to talk to and work with. Thank you to all the teaching staff of the Faculty of Engineering who went beyond their tasks to support us and brought this master thesis to life. I appreciate all the stakeholders of the energy system who took their time to help us and answer all our questions. From the government, the international organizations, the civil society organizations to the wind farms and people, it was a pleasure to meet you! Kosovo you welcomed us with open arms and your warm culture. It was amazing to finally make a connection to the roots my family is coming from. Also, to my family in Kosovo, you have been amazing for constantly helping and feeding us with your culinary specialties. It was amazing to see my aunt Ajshe teyze going beyond herself and her cultural limits, making us feel welcome! Finally, a huge thank you to Jamils who I had the opportunity to share the Kosovo experience with. You have not only pushed me to improve my work and my research, but I will be forever thankful for listening to me, for our dance moments and for making me laugh constantly. I am honored that I got to know you and your goofy side better since without you, I wouldn't have had the courage to tackle this project. Thank you for letting me overcome my personal boundaries. You are a truly motivating and inspiring person!

Further, I would like to thank Maryam my supervisor for supporting me throughout my thesis. I enjoyed working with you.

Thank you, Alena, Sahana, Mahima and Chia-Wen, my Girl Skwad, for coming into my LUMES life when I needed it the most. It was great spending the long study nights together with all of our LUCSUS dinners and just supporting, motivating and enlightening words that we always had for each other! I am happy to have made so beautiful friends! Also shout out to my Sambib Gang for making the days in the library joyful!

Last but not least, I would like to thank my Moral Support Team who have been in my life from the first day of this master's program! Kayita your ambitious personality and playfulness, constantly inspires me. Mato, thank you for your brotherly advice and always your love to annoy me, it did make me braver. Yuichito I love that there is no love without a little hate between us. Thanks for spoiling me! Valentinita you are a creative and smart soul. Thank you for always telling me what I need to hear. Finally, thank you Ginito for reading over this piece of work, challenging my thoughts, your goofiness and humble personality. I adore you and appreciate every moment we spend together!

I truly love you all. Not only have you shaped my life in Lund but myself to become, who I want to be. In these two years I grew a lot and without you this wouldn't have been possible. Ultimately, as Snoopy Dogg did it, I want to thank myself for always pushing and showing up. I am proud of myself!

Table of Content

1 Introduction	1
1.2 Purpose and outline	2
2 Background Information.....	4
2.1 Kosovo country overview and energy system	4
2.2 Energy Community Treaty and EU.....	6
2.3 Kosovo Energy Strategy	7
2.4 Renewable Energy Sources (RES)	8
3 Theoretical Framework.....	10
3.1 Just Transition	10
3.2 Energy Justice	11
3.2.1 <i>Distributional Justice</i>	11
3.2.2 <i>Procedural Justice</i>	11
3.2.3 <i>Justice of recognition</i>	12
4 Methodology.....	14
4.1 Research design.....	14
4.2 Data collection and analysis.....	14
4.3 Positionality and limitations of my study	16
5 Findings.....	18
5.1 Governance actors and settings.....	18
5.1.1 <i>Governmental or government related organisations</i>	18
5.1.2 <i>International Organisations</i>	19

5.1.3 Civil organizations	20
5.1.4 Business.....	20
5.1.5 Community and Municipality.....	21
5.1.6 Current governance settings.....	21
5.2. Challenges of reaching the potentials of energy transition.....	22
5.2.1 Technological challenges	22
5.2.2 Socio-economic challenges	23
5.2.3 Institutional and legislative challenges	23
5.3 Social implications of the energy transition	25
5.3.1 Financial Support and Affordability	25
5.3.2 Role of vulnerable groups	26
5.3.3 Who benefits?	26
5.3.4 Transparency and inclusion.....	27
5.4 Environmental implication of the energy transition	28
5.4.1 Land management issues.....	28
5.4.2 Land constraints/ other negative effects.....	29
5.4.3 Public Awareness of environmental protection and the feeling of responsibility	30
5.4.4 Wind Farm Acceptance	30
6 Discussion: Challenges and implications of the energy transition from a justice perspective	32
6.1 Distributional Justice: Availability and affordability issues	32
6.2 Procedural Justice: The politics of transition	33
6.3 Justice of recognition: Transparency and inclusion issues	35

6.4 Future research	36
7 Conclusions: Towards a just energy transition?	37
8 References	38
9 Appendices.....	47
9.1 Appendix A.....	47
9.2 Appendix B	51
9.3 Appendix C	55
9.4 Appendix D.....	57

List of Figures

Figure 1: Map of Kosovo (Ezilon, 2009)4

Figure 2 Energy Mix Kosovo in 2020 (Ciuta et al., 2022)6

Figure 3: Kosovo Energy Strategy Targets (Republic of Kosovo, 2023)8

Figure 4: Governance Actors18

List of Tables

Table 1: Electricity Capacities from RES9

Table 2: Eight aspects of just energy decision making and three justice tenets (Sovacool & Dworkin, 2015)12

Table 3: Eight aspects of just energy decision making (Sovacool & Dworkin, 2015)13

Abbreviations

BGF	Balkan Green Foundation
EBRD	European Bank for Restructuring and Development
EC	European Commission
ERO	Energy Regulatory Office
EU	European Union
GIZ	Deutsche Gesellschaft für International Zusammenarbeit
HPPs	Hydropower Plants
INDEP	Institute for Development Policy
KEDS	Kosovo's Distribution System Operator
KfW	Kreditanstalt für Wiederaufbau
KOSTT	Kosovo Electricity Transmission System and Market Operator
MCC	Millennium Challenge Corporation
MW	Megawatt
PPA	Purchasing Power Agreement
RES	Renewable Energy Sources
UNDP	United Nations Development Programme
USAID	United States Agency for International Development

1 Introduction

The widespread use of fossil fuels has led to a rise in environmental pollution on a global scale (IPCC et al., 2023). The advancement of global warming and climate change are viewed as catalysts for the energy transition. In order to meet the climate target of limiting the global temperature rise to 1.5°C as set out in the Paris Agreement, the global community has agreed to reduce greenhouse gas emissions (United Nations, n.d.-b). This has in turn brought attention to the issues of climate change and energy sustainability, highlighting the urgent need for a transition towards a fossil-free and low-carbon system (Carley & Konisky, 2020). This focus on climate neutrality has spurred the growth of the renewable energy sector (Gielen et al., 2019).

Although, the increase of renewable energy sources within the energy mix is considered a solution to mitigate climate crisis, there are different studies demonstrating conflicts through its implementation (Avila, 2018; Fairhead et al., 2012). As noted by Avila (2018), a socially and environmentally transition to renewable energy poses significant challenges since the transition not only entails a technological or economic shift, but is also inevitably embedded in broader socio-ecological and political dynamics. Determining how the transition will happen, who is involved in the decision-making process and who will bear the costs represents a major challenge (Newell & Mulvaney, 2013; Sovacool & Dworkin, 2015). In recent years, academic research has emphasized the importance of considering the non-technological aspects of energy transitions in order to gain a better understanding of both their potential benefits and their potential drawbacks (Guðmundsdóttir et al., 2018). In this context, many scholars from the energy justice fields highlight justice equity issues within the decarbonization, climate change and the transition into a green economy (Jenkins et al., 2016, 2017; Sovacool, 2014; Sovacool & Dworkin, 2015). The questions about energy justice equity, as well as just transition, are not limited to the EU borders, whose expansion process emphasizes the need for environmental protection and partnerships in the renewable energy industry. Hence, this issue must also be explored within the neighboring Southeast European countries who are mainly reliant on fossil fuel (Knez et al., 2022).

Many countries in the Western Balkan, such as Kosovo mostly rely on lignite (brown coal) (Arifi & Späth, 2018). Even though the country is beginning its energy transition, it has set ambitious targets for increasing the use of renewable energy sources and reduce its reliance on fossil fuels in the coming years (Republic of Kosovo, 2023).

1.2 Purpose and outline

The purpose of this research is to investigate the governance settings, and main issues in Kosovo's transition to renewable energy, as well as to examine the social and environmental ramifications from energy justice perspective. A further focus point is the Kosovo Energy Strategy 2022 – 2031, which coins the beginning of the sustainable energy transition in the country.

A preliminary desk study identified that even though energy justice gained popularity and an increase in application, there is still a lack of literature that considers the justice implications of an energy lifecycle (Healy & Barry, 2017). By using the energy justice framework from Sovacool & Dworkin (2015) I examine how the issues of availability, affordability, due process, sustainability, inter- and intragenerational equity, responsibility and governance are reflected by different stakeholders involved in the process of energy transition in Kosovo and marks up its possible implications. This addresses the following research questions (RQ):

- RQ 1: What are the governance actors and settings in the energy transition in Kosovo?
- RQ 2: What are the challenges of the energy transition?
- RQ 3: What are the social and environmental implications of the energy transition?

This research contributes to the fields of sustainability science due to its interdisciplinary approach of the energy justice framework (R. J. Heffron, 2022). Sustainability science makes it clear that progress calls for interdisciplinary research which supports the understanding of the interactions between nature and society. Further, this study portrays the interaction of global processes such as the increase of renewable energy, and its ecological and social aspects, in Kosovo and the energy sector, aligning with the core questions of sustainability science (Jerneck et al., 2011; Kates et al., 2001).

Kosovo relies entirely on the national power grid to meet its electricity needs, which is known for its unreliability, frequent power cuts, and inability to supply adequate energy to the population. Therefore, Kosovo prioritizes the poverty reduction, economic growth and increase of the renewable energy share (World Bank, 2018). These objectives align with the United Nations Agenda 2030's sustainable development goals (SDG), particularly SDG 7, which emphasizes the crucial need for access to affordable, reliable, sustainable, and modern energy for all (United Nations, n.d.-a).

This master thesis encompasses in chapter two (2) the background information giving insights on the energy system of Kosovo. Further, chapter three (3) provides the theoretical framework and analytical framework which has been used while answering the research question. Chapter four (4) focuses on

the research design and the methods. Ultimately, chapters five (5) and six (6) elucidate the findings and discussions, respectively. Finally, chapter seven (7) presents the conclusions.

2 Background Information

This chapter encompasses the relevant information about the country Kosovo as well as an overview of the energy system, building the foundation for the study.

2.1 Kosovo country overview and energy system

Kosovo is located in the Balkan Peninsula in Southeast Europe (Figure 1). The country was involved in a series of disputes contributing to the systematic disintegration of Yugoslavia. The Albanian ethnic majority declared its independence from Serbia in 2008, becoming de facto an independent state (Boussauw, 2012). This makes Kosovo the youngest country in Europe which is aligned with its average age of 26 years of its 1.6 million people (World Bank, 2017).



Figure 1: Map of Kosovo (Ezilon, 2009)

Kosovo's statehood is only accepted by three of five permanent members of the United Nations Security Council. This poses a great obstacle on foreign direct investments and hinders Kosovo from

modernizing crucial sectors of the economy (World Bank, 2017). Another study demonstrates that almost a third of the population is living below the poverty line and one in ten people live in extreme poverty, making Kosovo one of the poorest countries in Europe. The country's per capita income is only about one-tenth of the EU while having one of the highest unemployment rates in Europe (World Bank, 2018). To address this issue, the country must improve its energy infrastructure since electricity is crucial for the economic development of a country. This emphasizes the importance of its electricity supply's reliability and energy security while sourcing energy from alternative sustainable sources (Mexhuani et al., 2022; World Bank, 2018).

Currently, the country's electricity system is outdated, inadequate, and unreliable, hindering economic growth and development. Frequent power outages disrupt manufacturing, education, and health services, discouraging investment and job creation. Moreover, many citizens still rely on burning firewood and coal for heating and cooking, causing respiratory and other health problems due to air pollution (World Bank, 2018). Kosovo is a country where still 40% of the households are suffering from energy poverty which is caused by a combination of factors including low income, high expenses of disposable income on energy and inadequate energy efficiency where particular the performance of buildings play an important role (Aman & Winterscheid, 2022).

A deeper look into its energy sources reveal that Kosovo has abundant lignite (brown coal) resources, which totals 12,5 billion tons, making it the second largest in Europe and fifth-largest reserves globally. Additionally, Kosovo has extracted lignite since 1922 (Ciuta et al., 2022; Lappe-Osthege & Andreas, 2017). The national grid and energy sector rely on the lignite coal-fired power plants 'Kosova A' and 'Kosova B' (with 915 MW total capacity) which generated 96,4% of Kosovo's electricity in 2020. The remaining share of the matrix is 3,6 % of the energy mix is from hydro power, 1,4% from wind and 0,3 from oil and 0,1% from solar (Ciuta et al., 2022). The Figure 2 represents this scenario in a pie chart, illustrating the dependence on coal.

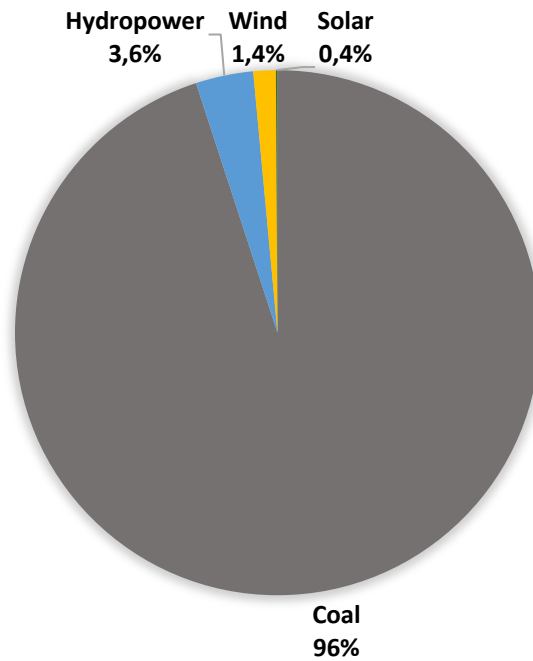


Figure 2 Energy Mix Kosovo in 2020 (Ciuta et al., 2022)

For many years Kosovo's efforts to develop renewable energy sources have been hampered due to plans for a new 500 MW lignite power plant, called 'Kosova e RE'. These plans diverted efforts and resources from the development of more sustainable forms of energy (Ciuta et al., 2022). However, in 2020, the project was eventually abandoned since other financing resources were lacking, after the World Bank and European Bank for Reconstruction and Development (EBRD) withdrew (Gallop, 2020; World Bank, 2018). Additionally, interconnection projects with neighboring countries, particularly Albania, were delayed due to political issues between Kosovo and Serbia (Ciuta et al., 2022). Currently, Kosovo does not have direct transmission lines to the EU, but it exports electricity to Serbia. Some of the coal-heavy electricity produced in Kosovo eventually ends up in the EU. It is unclear if Kosovo imports electricity from other countries (Ciuta et al., 2022).

2.2 Energy Community Treaty and EU

As part of the expansion plans of the energy market regulations to non-EU countries like Southeast Europe and the Black Sea region, the EU established the Energy Community Treaty in July 2006 (Energy Community, 2022). Besides a stable regulatory and market framework, allowing cross-border energy trade and integration with the EU market, the aim is also to improve the environmental situation regarding the energy supply in the region and cultivate the use of renewable energy and energy efficiency (European Commission, n.d.; Ciuta et al., 2022). By signing the Energy Community Treaty, Kosovo has aligned to adopt laws that are aligned with the EU laws and the Just Transition

mechanism. These are reflected in the Law on Energy No. 05/l – 081 of the Republic of Kosovo which aims to ensure a safe, reliable, and high-quality energy supply, as well as a functioning open energy market. Additionally, the law aims to promote energy efficiency, renewable energy sources, and co-generation, while protecting the environment during energy activities. The law is partially compliant with several EU directives related to the internal electricity market, cross-border electricity exchanges, and the use of renewable energy sources (Republic of Kosovo, 2016).

2.3 Kosovo Energy Strategy

Based on these treaties, Kosovo established the Kosovo Energy Strategy from 2022 – 2031, outlining the primary objectives and actions for the development of the energy sector over the next decade. The Energy Strategy emphasizes the urgency of advancing the energy sector as Kosovo envisions it in line with the EU goals (Republic of Kosovo, 2023).

The development of this document adheres to the Law on Energy and the Administrative Instruction (GRK) NO. 07/2018, which specifies the role, content, and procedures for drafting strategic documents and action plans. The previous Energy Strategy from 2017-2026 has become obsolete due to the need to restructure Kosovo's energy sector to address recent developments in Kosovo, the wider region, and Europe. As a result, the current strategy replaces the previous one (Republic of Kosovo, 2023). The targets of the strategy are illustrated in the following Figure 3.

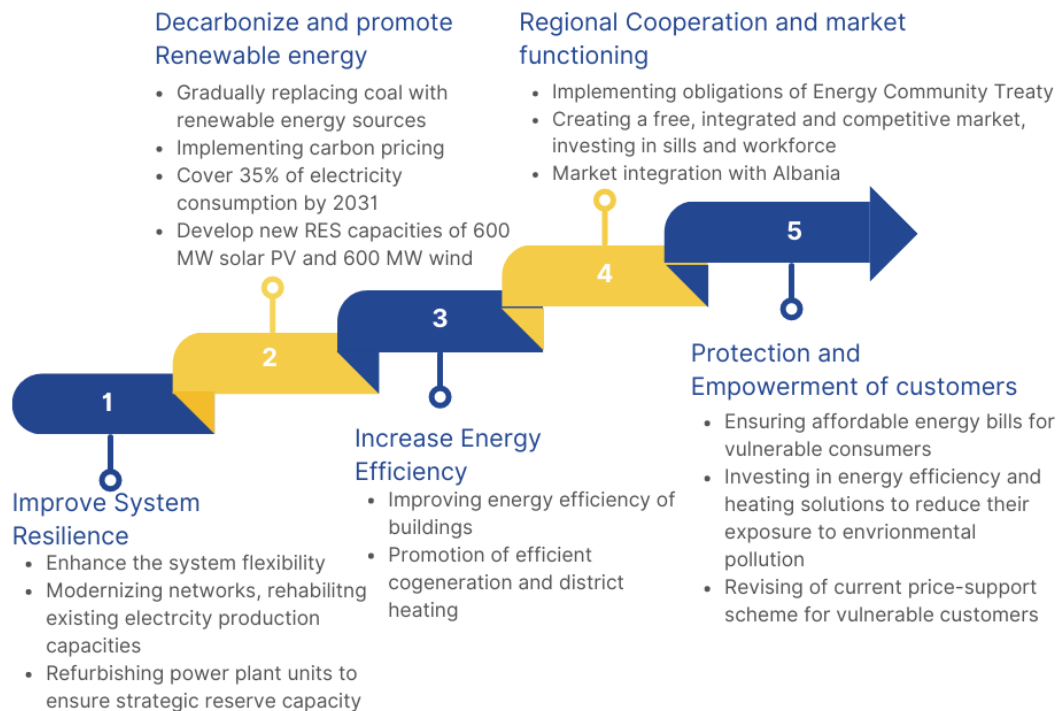


Figure 3: Kosovo Energy Strategy Targets (Republic of Kosovo, 2023)

2.4 Renewable Energy Sources (RES)

As part of the technical transition, Kosovo focuses on the renewable energy sector which is defined by the law on energy as non-fossil energy sources such as wind energy, solar energy, geothermal waters, wave energy, hydro energy, biomass, landfill waste gas, wastewater treatment gas, and biogas, including any technology that generates electricity without the use of fossil fuels (Republic of Kosovo, 2016). As illustrated by Figure 3, the new Kosovo Energy Strategy targets to have around 1600 MW of renewable energy source capacities which contains the 279 MW currently in place, but also the creation of 1320 MW of new capacities. This includes 600 MW wind, 600 MW solar PV, 20 MW biomass and at least 100 MW of prosumer capacity by 2031. Notably, the construction for new hydropower has been suspended and is not promoted by the new strategy due to its social and environmental impacts (Republic of Kosovo, 2023). The use of biomass is considered as 'green' but is still a source that depletes natural resources (Sriram & Shahidehpour, 2005). For these reasons, the focus of this research solely relies on solar and wind energy.

The Energy Regulatory Office (ERO), an independent institution that regulates and gives licenses, displayed in its Annual Report 2021 the capacities from the renewables. As Table 1 indicates that in

2020, the wind and photovoltaic increased up to 30 and 150 MW, respectively, demonstrating an upwards trend between 2016 and 2020 (Energy Regulatory Office, 2021).

Table 1: Electricity Capacities from RES

Primary Source of Energy	2016	2017	2018	2019	2020
Photovoltaic	6	7	8	9	30
Wind	1	61	115	129	150
Small HPPs	40	57	181	187	240
Biomass	6	8	10	12	20

As incentives to increase the renewable energy sector, the ERO board has established Feed-in-Tariffs for generation of electricity produced by RES (ERO, 2016), with wind generation priced at 85.0€/MWh while for solar/photovoltaic it was 136.4€/ MWh for targets up to 10 MW. Compared to that, renewables have a higher tariff than coal which costs 29 €/MWh it was 136.4€/ MWh for targets up to 10 MW. Compared to that, renewables have a higher tariff than coal which costs 29 €/MWh (Energy Regulatory Office, 2021; Republic of Kosovo, 2023). Further, the energy regulator guaranteed the lifespan of the Power Purchasing Agreement (PPA) between the investor and KOSTT where the electricity generated from photovoltaic panels and the energy from wind turbines have contracts of a duration for 12 years (Energy Regulatory Office, 2021).

In 2020, ERO recognized that competitive support mechanisms were proved to be more cost-effective in promoting the deployment of clean technologies, thus ERO suspended the use of feed-in tariffs in that year. Currently, the legal framework is being formulated to introduce competitive, cost-effective, and transparent support schemes, such as auctions, in the future (Republic of Kosovo, 2023).

As illustrated in the graphics provided, the wind energy sector holds a larger share within the renewable energy mix in Kosovo, making it a focal point for this research. It allows a more in-depth analysis of specific dynamics and challenges associated with wind energy implementations in the region. Therefore, the further wind sector stakeholders will be discussed in the results section.

3 Theoretical Framework

The research builds upon the existing body of two closely intertwined concepts, Just Transition and Energy Justice. These concepts analyze the transition into a low-carbon system upon justice equity implications (Santos Ayllón & Jenkins, 2023).

3.1 Just Transition

The basis of this research delivers the energy transition from fossil-fuel to a renewable energy system. The governance for sustainable development concentrates on the steering of the society towards a more sustainable future, emphasizing the importance to understand who is navigating and in which direction (Meadowcroft, 2007; Williams & Doyon, 2019).

According to Geels et al. (2016) it involves significant transformations in buildings, energy and transportation systems. These transitions are not just about implementing technical changes but also require alterations in consumer behavior, markets, institutions, infrastructure, business models and cultural discourses (Geels et al., 2016). Thus, a just transformation of the socio-energy system is not only a decision of reducing carbon emission but opting to live in a different kind of society, one that is not just a low-carbon version of the present one (Healy & Barry, 2017). Ultimately, Liu et al. (2022) points out that fundamental changes and shifts of the energy systems are a complex task where there is not uniform solution and cannot be applied universally in the same manner. Therefore, an equitable transition is crucial which requires that no one is left behind (Just Transition Center, 2017).

Originally, the concept of Just Transition has occurred from labor unions' efforts to reconcile the emerging need for environmental protection with the desire to secure justice for workers. The idea was not only about creating green jobs or retirement plans, but rather emphasized the importance of an inclusive process that involved dialogue and the engagement of affected workers and communities (Santos Ayllón & Jenkins, 2023). The labour-based concept increasingly has been expanded, today the just transition discourse encompasses a variety of topics such as energy sovereignty, food justice and green gentrification (Henry et al., 2020; Wang & Lo, 2021).

In the literature Wang & Lo (2021) have identified five key themes around the concept of just transition. Firstly, just transition is rooted in the labor-oriented concept as it originated from there. Secondly, just transition serves as an integrated framework for addressing justice concerns. Thirdly, it can be understood as a theory of socio-technical transition. Fourthly, just transition encompasses a governance strategy. Finally, it involves the public perception of transition to a more sustainable

future. These fundamental aspects of just transition are prominently featured throughout the thesis, highlighting their significance in understanding and implementing a just transition.

3.2 Energy Justice

As aforementioned in the introduction, a critical part of the just transition is the energy justice framework which is used as an analytical framework in this research. It points out that transformation into a low-carbon energy infrastructure and policies produce new forms of inequality and vulnerability but also can provide opportunities for a change for better (Wiese, 2020). The concept delivers different kind of analytical tools as: disparities in the distribution of benefits and burdens of low-carbon energy systems and the reasons behind, social groups and their recognition, processes or means on how to remediate potential injustices (Jenkins et al., 2016). The core of energy justice form the three tenets: distributive justice, procedural justice and justice of recognition which are elaborated further in the following paragraphs (Jenkins et al., 2016).

3.2.1 Distributive Justice

Under this we can understand the allocation of benefits, opportunities as well as costs and risks related to the outcomes of the production and consumption of energy. Further, this means that energy systems are connected to social implications that also go beyond their technological and economic development (Wiese, 2020). Other aspects can be physical access to electricity or intangible aspects as the socio-economic impacts of the provided energy. This can involve cost of energy, ownership, or employment opportunities. Further, spatial aspects as the location of a solar park are necessary to investigate on (Wiese, 2020).

3.2.2 Procedural Justice

In terms of procedural justice, it comprises formal and informal procedures of decision-making processes include the access and influence on them as well as how decisions are taken. Non-inclusive procedures can lead to unfair outcomes. For that reason, effective participation also includes not only the physical involvement in the decision-making process, but also who participates and has a voice in the process (Wiese, 2020).

3.2.3 Justice of recognition

This is strongly connected to procedural justice since it involves the ability that someone effectively participates. It also aims to reveal underrecognized sections, including those who are misrecognized and distorted in demeaning ways (Santos Ayllón & Jenkins, 2023; Wiese, 2020).

Table 2: Eight aspects of just energy decision making and three justice tenets (Sovacool & Dworkin, 2015)

	Eight Aspects	Tenet
1	Availability	Distributional
2	Affordability	
3	Due Process	Procedural and Recognition
4	Good Governance	
5	Sustainability	Distributional
6	Intergenerational Equity	
7	Intragenerational Equity	
8	Responsibility	

The energy justice framework has been established as an analytical and decision-making tool, but its application has been largely theoretical and conceptual. As presented in the Table 1 Sovacool & Dworkin (2015) expanded the three dimensional energy justice framework into eight aspects i.e. (1) availability, (2) affordability, (3) due process, (4) good governance, (5) sustainability, (6) intergenerational equity, (7) intragenerational equity and (8) responsibility, to better apply the theoretical insights into the analysis of just energy decision-making process. In the following Table 3 the eight principles are explained accordingly to Sovacool & Dworkin (2015). In the appendix A a complete explanation of these eight aspects is available.

Table 3: Eight aspects of just energy decision making (Sovacool & Dworkin, 2015)

Eight Aspects	Explanation
1 Availability	People deserve sufficient energy resources of high quality
2 Affordability	All people, including the poor, should pay no more than 10 percent of their income for energy services
3 Due Process	Countries should respect due process and human rights in their production and use of energy
4 Good Governance	All people should have access to high quality information about energy and environment and fair, transparent and accountable forms of energy decision-making
5 Sustainability	Energy resources should not be depleted too quickly
6 Intergenerational Equity	Future generations have a right to enjoy a good life undisturbed by the damage our energy systems inflict on the world today
7 Intragenerational Equity	All people have a right to fairly access energy services
8 Responsibility	All nations have a responsibility to protect the natural environment and minimize energy-related environmental threats

These principles are served within this research to reach deeper insights in justice equity issues.

4 Methodology

This section outlines the procedures and techniques I used to gather, analyse, and interpret the data which addresses my research questions.

4.1 Research design

This research employs a qualitative research design to gain in-depth insights into specific topics that involve people, communities, organizations, and institutions (Bryman, 2016). This is highly necessary since my research was partly built to gain perspectives on justice issues in transitioning to renewable energy. Specifically, a case study methodology is used to answer the research questions, using semi-structured interviews with stakeholders of the energy transition in Kosovo. This approach enables intensive investigation of an individual, group, community, or unit to gather comprehensive data on relevant variables (Heale & Twycross, 2018).

Yin (2009) defines a case study as an empirical investigation that centers around a particular decision or case and extends to encompass other related organizations, processes, and programs. The 'how' question that arise from the research question can be effectively addressed through this approach. Moreover, a case study provides a reflection of the case within its real-world context, adding an element of authenticity to the findings. This research is based on a single-case study design which examines the general energy transition in Kosovo, leading to a holistic design approach. Eventually, the research was expanded with an embedded case study due to field work at a wind farm in Kosovo, giving more in-depth understanding and supporting the contextualization of this case (Yin, 2009).

This study focuses on the geographic scope of Kosovo. The interviews with selected stakeholders, involved in the energy transition, were conducted primarily in the capital city, Pristina. However, for interviews specifically related to the wind farm, additional interviews were held in Kitka, the location of the wind farm itself, as well as in Poliçka, a nearby village, and Kamenica, a municipality in close proximity to the wind farm.

4.2 Data collection and analysis

A primary Scopus research request with the search terms like 'energy Kosovo' or 'renewable energy in Kosovo' helped to receive a better background knowledge about the energy system in Kosovo. Further, searching for 'energy justice in Kosovo' one relevant document was presented while for the other research terms many studies about the technicalities of renewables were given. These

demonstrate that there is a gap between technical and social research in the energy sector in Kosovo, this gap is addressed by my research. In detail, the literature review assisted to gain an overview of the governance settings, including organizations, renewable energy rules and laws to map out stakeholders.

I also conducted a field work in February/ March 2023 including semi-structured interviews with different stakeholders, gaining better understanding of their perceptions and perspectives on energy justice issues where local perspectives that might not have been displayed. The interview partners were partly based on research in order to filter who are stakeholders of the energy system and energy transition in Kosovo. Other contacts were established through snowball sampling with the stakeholders. For the purpose of the field work, I constructed an interview guide that is based on the eight aspects of energy justice: (1) availability, (2) affordability, (3) due process, (4) good governance, (5) sustainability, (6) intergenerational equity, (7) intragenerational equity and (8) responsibility. Additionally, the aims and targets of the Kosovo Energy Strategy were included, gaining perspectives to the prospects and achievability of the strategy.

In total, there has been 25 exchanges with various stakeholders including the governmental representatives from the ministry of economy, the faculty of engineering, wind farm investors, the ERO, NGOs, diverse international organizations, and operators of the energy system. These stakeholders are closer displayed in the results section of the thesis. Not all of them were face to face, since three interviews were hold online and two interviews were in a written form.

Within these 25 exchanges, I conducted eight informal interviews five with the Faculty of Engineering of the University of Pristina Hasan Pristina, a law researcher, another energy justice researcher, and a professor at the Suisse University of Applied Sciences of the Grisons. These were not included in the research paper since they served as background knowledge providers while I also did not record my exchanges with them. These informal interviews played a crucial role in enhancing my understanding of the governance of the energy transition and which stakeholders are involved, which aligns with RQ 1. Moreover, they provided valuable insights and helped to establish a solid background understanding of the energy system. Exchanging knowledge inspired asking more critical questions especially with regards to RQ 2, allowing me to capture more comprehensive knowledge of the social and environmental challenges associated in the energy transition. Beyond that, the informal interviews and formal interviews served as a valuable resource to explore locally shared published documents and non-academic literature. This involved searching for relevant materials, including reports, policy documents, and publications produced by the stakeholders themselves. Incorporating this grey

literature enriched the dataset, providing a more complete picture of the stakeholders involved and their published materials.

Eventually, my findings are based on 15 formal interviews, which are indicated as 'Int' within the result section, answering different aspects of the research questions. The questionnaire guide as well as an overview of the interviews is inserted in the appendix B and C. However, in the process of conducting the formal interviews with the relevant stakeholder, I recognized that the awareness of the theoretical approach and knowledge about energy justice was not complete from everyone, and the definition of energy justice was not prevalent throughout the interview partners. It was also confused with sustainability in general. Therefore, I decided to change my questionnaire and ask more detailed questions. The interviews with the first questionnaire were: Government interview 1, GIZ and ERO. Regarding the government, I took another interview with another representative, but the other interviews were not retaken since I already gained a lot of information from them with the first questionnaire and could complement the material with the other interviews.

Other interviews with an organization called Connecting Natural Values and People (CNVP), focusing on the production of renewable energy from biomass, was not in the scope and thus not taken into consideration. A similar case was the interview with the *Association of Women in Energy* where the gender aspect was considered out of scope, while also the language barrier was hindering each other's understanding.

The field work at the wind farm of Air Energy in Kitka was conducted with a professor from the Faculty of Engineering who functioned as my translator and local guide. This wind farm was the first one installed in Kosovo and therefore chosen for this research.

With regards to the evaluation of the interviews, I used different tools. From the used interviews ten were recorded and transcribed while from the other five, my personal notes from the exchange were used in the master thesis. The online transcription tool Otter.ai provided the transcription protocols which were later analyzed through the NVivo software program based on different codes like the eight energy aspects which is also indicated in the appendix D. Finally, the results section created new topic sections grouped based on the content.

4.3 Positionality and limitations of my study

The study is mainly based on interviews from stakeholders in the energy sector who are involved in the topics and can provide valuable insights but also be subject to biases and limited

perspectives (Bryman, 2016). Here, the echo-chamber effect could be significant since similar backgrounds or beliefs can reinforce each other's ideas and perspectives, limiting diverse viewpoints and potentially distort the results of the study. This means also that due to the lack of exchange or interconnection the interview partner not always knew the complete facts.

Within this research I did not distinguish within the vulnerable groups and only focused on asking about low-income households. A research paper of GIZ revealed a description of different groups like rural households, ethnic communities, people with disabilities, retired or elderly people and women (Aman & Winterscheid, 2022). This was not considered since it would have expanded the scope of this research.

Another limitation derives from the fact that this study sample is rather small, resulting in the case that some stakeholders have not been included whose opinions may differ from those presented. Moreover, this study does not include a quantitative data analysis that could have provided a more comprehensive understanding of the energy transition in Kosovo. Therefore, a generalization of this case study is difficult since every country has different problems to tackle a just transition and different measurements are needed to overcome them. Eventually, the field work comprised only a month which might have limited the research output.

Beyond that, as a researcher for this topic, it is important to acknowledge my personal positionality. I have a personal interest in renewable energy and energy justice while it aligns with my personal values and beliefs. Thus, this can influence my interpretation of the data and analysis which again may impact the research outcomes due to my biases and perspectives. Consequently, being a non-native speaking researcher, even though my parents were born and raised in Kosovo, growing up in Germany I know that my cultural background and lack of language skills may influence the interpretation of data and relationship with the participants. Additionally, my role as a German speaking master thesis researcher from Sweden may also impacted the relationship with the interviewees and their willingness to disclose sensitive information. Overall, I recognize the importance of being reflexive about personal positionality as a researcher and how it may impact research outcomes.

With regards to the ethical consideration, all participants were informed consent either through verbal consent or a consent form which they signed about the purpose of the study. Moreover, the data collected during the study was kept confidential and stored securely and data was collected in accordance with ethical guidelines and principle.

5 Findings

This section presents the findings of the research focusing on the governance settings and answers related to the eight aspects of energy justice which are outlined in the theory section. Based on this framework, the most important topics were summarized and categorized, resulting in specific themes such as hurdles of technical transition, social implications, and environmental implications of the transition, in relation to the research questions and objectives.

5.1 Governance actors and settings

The Ministry of Economy and the Energy Regulatory Office (ERO) are the primary national institutions responsible for regulating and defining the energy transition and ensuring its fair implementations (Berdoniqi, 2022).

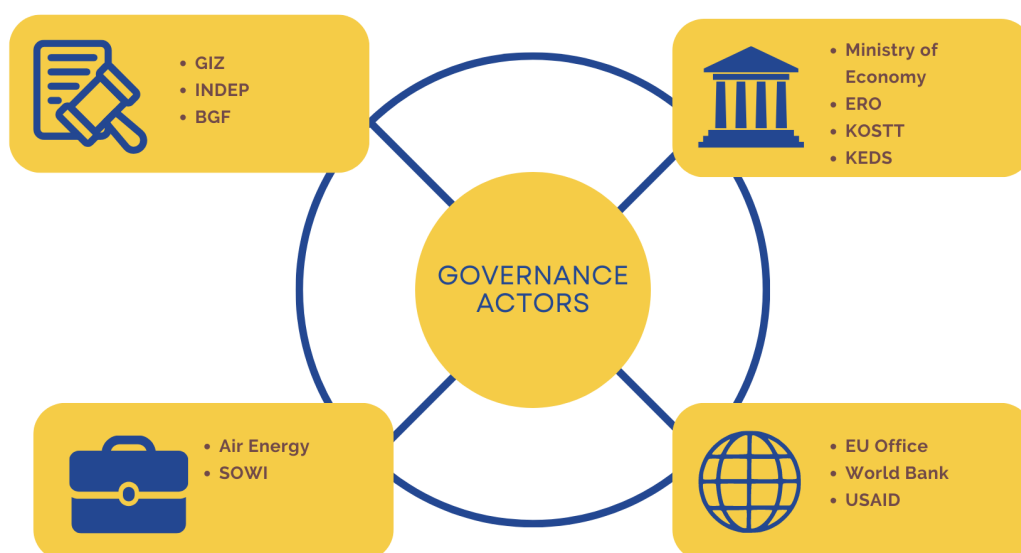


Figure 4: Governance Actors

5.1.1 Governmental or government related organisations

The **Ministry of Economy** is in charge of developing and overseeing the implementation of energy sector legislation. Its energy department formulates policies, laws, and strategies to achieve the goals of the energy transition (Berdoniqi, 2022). The Ministry of Economy includes the Department of Energy, which was a leading role in crafting the Kosovo Energy Strategy by chairing the working group (Republic of Kosovo, 2023).

ERO is an independent energy regulator established by the Kosovo Assembly but closely works with the Ministry of Economy. The regulator's responsibility entails establishing the methodology, rules, and procedures for the preparation and approval of energy balances. ERO sets prices and approves tariffs for the energy services (Berdoniqi, 2022; ERO, n.d.).

KOSTT is the Kosovo Electricity Transmission System and Market Operator which is responsible for the organization and administration of trades in electricity and the management of settlement processes. Their mission is to operate securely and reliable, ensuring a secure supply of electricity and promoting and efficient transparent electricity market (KOSTT SH.A., n.d.).

KEDS also known as the Kosovo's Distribution System Operator is a Turkish business owned company and aims to make investments that support the energy transition, the adaptability of the distribution network and the integration of renewable resources. Their goal is to improve electricity supply to consumers but also creating the conditions for the best possible integration of RES generators by offering an easier access to the Distribution System, Compatible integration of participants in the Distribution System, Qualitative service of all participants in the Distribution System (KEDS Int).

5.1.2 International Organisations

The Ministry faces limitations in terms of capital and human resources, making it challenging to implement its decarbonization agenda. Therefore, international organizations such as the World Bank, Energy Community, Kreditanstalt für Wiederaufbau (KfW), GIZ, and USAID have provided support and influenced the Ministry's agenda and policies (Berdoniqi, 2022). In the following are the ones further elaborated that were interviewed.

The European Union Office (**EU-Office**) in Kosovo is holding on policy dialogue with Kosovo and has signed the stabilization and Association Agreement with the EU. It monitors the progress implementation, bottlenecks and challenges while supporting the drafting of legislations, strategies, and national strategies (EU-Office, 2021).

The World Bank Group (**World Bank**) supports the developing countries with large sources of funding and knowledge, achieving to reduce poverty (World Bank, 2023). In Kosovo their projects encompass various areas within the development work. To name a few, it includes energy efficiency, development of renewable sources of energy and the integration into regional energy markets (World Bank, 2018).

The United States Agency for International Development (**USAID**) supports to work on economic growth activities, aiming to develop Kosovo's private sector but also focuses on strengthening the design of policies (USAID, 2023a). It also provides technical assistance and adopts RES laws (USAID, 2023b).

5.1.3 Civil organizations

The following civil organisations are assisting the energy transition in in Kosovo.

The Deutsche Gesellschaft für International Zusammenarbeit (**GIZ**) GmbH has been engaged by German Federal Ministry for Economic Cooperation and Development (BMZ) since 1999 to provide advisory and support services to Kosovo, with a focus on promoting political stability and democracy. A key area of emphasis for GIZ is to enhance energy efficiency in Kosovo (giz, 2022).

The Institute for Development Policy (**INDEP**) functions as an independent policy solutions provider that is research based while it also serves as a think tank and advocacy center. Founded in 2011, it is an association of policy analysts, researchers, and civil society activists that focuses on regional policies with the aim of guiding South-East European countries towards Euro-Atlantic integration. Under the programme of sustainable development INDEP is focusing on energy topics in Kosovo (INDEP, 2002a).

Balkan Green Foundation (**BGF**) is a regional organization that advocates for inclusive and equitable progress in the Western Balkan in the sustainable development sector. With the partner organizations, BGF is dedicated to advocating for development policies that align with the latest global trends, address global challenges and support national agenda for EU integration. In Kosovo they are taking part to shape the energy transformation decarbonisation in the Western Balkans (Balkan Green Foundation, 2023).

5.1.4 Business

The Turkish Güris Holding has initiated a wind farm project under its subsidiary **Air Energy** of 32 MW in Kitka, in Kosovo. The wind farm was commissioned in August 2018 (Air Energy SH.P.K, 2020).

SOWI KOSOVO L.L.C. has initiated the installation of the wind farm in Bajgora/Selac, within the Municipality of Mitrovica. The 27 wind turbines are creating 103,4 MW energy from wind (Energy Regulatory Office, 2021) and are funded together with a German and Israeli company (Todorović, 2020).

5.1.5 Community and Municipality

For the study, two wind farm neighbours and an ex-municipality official, who was in charge when the wind farms were integrated in Kitka, were interviewed and indicated as ‘Wind farm Int 1,2,3’ within the finding section.

Deeper research into the actor’s governance reveal that seven out of the 12 listed stakeholders above are either international organizations or have international organizations, like the EU, GIZ or USAID, as their donors. These again fund the civil society organizations like GIZ, INDEP and BGF (Balkan Green Foundation, 2023; giz, 2022; INDEP, 2002b). Additionally, it shows that the wind farm investor SOWI achieved the wind farm project in a venture with investors from Israel and Germany (Todorović, 2020).

Consequently, the sustainable energy transition in Kosovo is highly dependent on international funding, either from international institutions or investors. The interviews demonstrate that international development aid plays a significant role in Kosovo's sustainable energy transition where the EU-Office even highlights that without these investments the sustainable energy transition would not be possible (EU-Office Int).

This is underlined by diverse programs and funds as the Green Growth Fund or organizations as the Development Bank (KfW) or the World Bank Groups which are supporting energy projects in the whole Western Balkan region. Moreover, the main providers of technical assistance are the GIZ, the UNDP and the USAID (WBIF Secretariat, 2019). Another development supporter are the Millennium Challenge Corporation (MCC) and the European Commission (EC) which focus on energy projects and enabled the battery storage construction (Government Int 1). Another solar project is financially supported by the EU, KfW and EBRD while the wind farms were also mainly built by international investments (BGF Int).

5.1.6 Current governance settings

The aim to diversify the energy mix through renewable energy resources introduced new renewable energy technologies such as solar and wind into the energy sector. As mentioned in the background section, Kosovo has certain governance settings in place in order to facilitate the market for renewables. The interviews confirmed that these mechanisms were in place until 2020, where these incentives resulted in the operation of 30 generators (ERO Int).

In 2023, Kosovo has decided to launch a pilot auction in the municipality of Rahovec for 100 MW of Photovoltaic where the government chose the land and made it available for the investors. The

auction method or also known as tender, is seen as an option to promote competition and achieve better prices with regards to renewables (Government Int 1, World Bank Int, ERO Int).

ERO criticizes the fact that it took the government over a year to find proper public land and that without the feed-in tariffs the requirements must be facilitated (ERO Int). The EU-Office found that these enablers such as the auction and tender methods are needed but those projects need a productive, dynamic, and fast acting society in order to reach the ambitious targets.

In addressing the first research question (RQ1), this section demonstrates that the stakeholders of the energy transition are strongly supported by international organizations. Their assistance is characterized by fundings for sustainable development, technical assistance, knowledge, and support the creation of policies around the energy transition.

5.2. Challenges of reaching the potentials of energy transition

Feasibility studies display that Kosovo has good potentials to develop their renewable energy capacities in solar and wind (Krasniqi & Ymeri, 2022). A study from the World Bank indicates that there are around 3000 MW of combined solar and wind capacities available in Kosovo (World Bank Int, Government Int 2). This is also underlined by other interview partners (KEDS Int, KOSTT Int):

“Kosovo has good potential for wind and solar energy due to its favorable geographical location and abundant sunshine. “ (KEDS Int).

Even though there is potential, the country faces several challenges. This section categorized the main findings into six different topics, describing key challenges around the technical transition in Kosovo.

5.2.1 Technological challenges

A few respondents reveal that everyone has energy access to the grid however energy security and reliability are bigger challenges of the current energy system. Additionally, the respondents indicate that the decarbonization of the heating sector is harder than the electricity since there are not many renewable options (USAID Int, World Bank Int, INDEP Int).

Moreover, for the energy transition the current energy infrastructure is lacking which is why new technologies and innovations are needed in order to achieve the transition. According to interviews, Kosovo is taking measures to transition to renewable energy, aiming to overcome the intermittency of wind and solar resources. The government works to ensure availability and access to energy through the expansion of district heating systems, battery storage (170 MW), reducing consumption,

and exploring new technologies. The Kosovo Energy Corporation (KEK), who owns the two power plants, are planning to install 100 MW of solar panels and refurbish existing coal power plants to comply with air pollution rules. Other suggest measures including energy efficiency, expanding district heating, and scaling up investments in renewables while lowering demand (EU-Office Int, Government Int 1). Further, KOSTT aims to expand the creation of overhead lines but also emphasized that the current energy system can accept only 500 MW - 1000 MW which is why investment offers, exceeding this, cannot be covered by the energy system (KOSTT Int).

In this sense, ERO and SOWI highlight that for the attracting investors, it is important that the government have wind measurements in place, before investing in wind energy since these are necessary for investors, otherwise they are hesitant to invest without sufficient data. Eventually, the investors provide road infrastructure and their own connection to the overhead line (ERO Int, SOWI Int).

5.2.2 Socio-economic challenges

The interviews as well as the Kosovo Energy Strategy indicate that the reliance on coal will be maintained in order to uphold energy security while also many workers are employed in the mining sector (KOSTT Int).

At the moment, around 4000 employees are working, of which the majority is over 50 years old and will retire in the next ten years. However, since the power plants will stay in operation at least until 2050, more people will be employed (EU-Office Int). In the future this may become a need with an increase in investments. After all, the power plants are aimed to be decommissioned gradually (BGF Int) and the workers may result in early retirement, since it is difficult for them to integrate them into the renewable energy sector (KEDS Int). As a result, many respondents underlined the need to provide these employees with training and knowledge, as well as specific initiatives to address communities and companies in the coal mining region (World Bank Int, INDEP Int, USAID Int). Currently, there is no concrete plan on how to tackle them which seems also not the top priority since Kosovo is at an early stage. The Kosovo Energy Strategy provides some insight into what may happen, but there is still some uncertainty about the specific actions that will be taken up until 2031 (EU-Office Int).

5.2.3 Institutional and legislative challenges

The stakeholders agree that the Kosovo Energy targets are ambitious goals for its energy sector. While the EU-Office and BGF would have liked to see more ambitious goals, the EU-Office and

the World Bank see that the plans are quite challenging to achieve within the defined timeframe (EU-Office Int, World Bank Int).

Within the interviews, GIZ and the EU-Office argued that one key challenge is the lack of a clear plan for a just transition, but also for the energy transition itself, from the government and other stakeholders. While there is hope that this will be addressed in the coming years, there is not yet a clear strategy for ensuring that the transition is fair for all stakeholders since its costs could disproportionately affect vulnerable groups.

ERO and SOWI believe that the targets are not realistic, while GIZ questions whether the grid can accommodate all the energy production from renewables. Kosovo also lacks skilled workers and has limited capacities in the government (World Bank Int). Similarly, KEDS also noticed the issue of technical capacity to plan, design and operate renewable energy systems, which is also based on technical assistance from donors (KEDS Int, World Bank Int). This will require investment in education and training programs, as well as in research and development of new technologies.

The EU-Office recommends introducing auctions and renewables and introducing legislation and policies to encourage more proactive implementation. However, the lack of intersectoral cooperation and regional integration poses a challenge. Besides the EU-Office, also KOSTT and the Kosovo government indicate that permitting is also a significant issue, and investors require multiple licenses which should be simplified to implement energy projects (EU-Office Int, KOSTT Int, Government Int 2).

Beyond that, KEDS adds that the hurdles of financial resources for the transition are depending on the private sector investments. These again require stable and predictable regulatory framework with an attractive environment for investments. Further, KEDS states that the energy infrastructure is heavily reliant on coal and less interconnected to neighboring countries.

Moreover, the transition requires political commitment that sustains efforts over a long time. Therefore, KEDS points out that powerful interest groups who might benefit from them can resist the efforts to change the energy system (KEDS Int).

Public acceptance is another challenge stated by KEDS, as some members of the public may resist the transition to renewable energy due to concerns about potential impacts on the local environment and economy.

Overall, while some say it is realistic to achieve the goals, set out in the strategy, other mentioned similar challenges that are very similar that were mentioned throughout the other sections of the results.

In exploring the challenges of the energy transition, which marks the second research question, technical issues such as insufficient energy infrastructure are of major concerns, where new technologies and innovations are needed to achieve the transition. Additionally, the mechanisms which facilitate the transition are also key points of consideration. The institutional and political level are not only highly dependent on international funding, but the energy system and economy rely heavily on coal, maintaining energy security and stabilizing the economy but creates adverse effects on environment and health. Moreover, bureaucracy hurdles, lack of skilled workers, and limited investment possibilities public acceptance may hinder the achievement of the goals set in the Kosovo Energy Strategy.

5.3 Social implications of the energy transition

This following part focuses on the social and environmental implication of the energy transition. Here, six key topics could be identified which potentially influence the just energy transition of Kosovo. Regarding the social affairs, the key topics are (1) affordability and financials, (2) role of vulnerable groups, (3) who benefits, (4) transparency and inclusion. Looking at the environmental governance the findings circulate around (5) land management issues and land constraints, as well as (6) public awareness of environmental protection.

5.3.1 Financial Support and Affordability

The respondents agreed that decarbonization acquires the need for lots of investments, leading to private and public investments. Since public investments are socialized costs that will be distributed among all consumers, it might increase energy prices (Government Int 1). KEDS supports this with the statement:

“The transition leads to increased energy costs for consumers, particularly those in lower income brackets which could exacerbate existing inequalities and contribute to energy poverty.” (KEDS Int).

The government of Kosovo is implementing several measures to ensure that energy is more affordable. These measures include:

- allocating money to vulnerable minorities such as single parents
- providing subsidies for renovating homes and buildings
- targeting vulnerable individuals through the Kosovo Energy Efficiency Fund
- a wealth-targeted scheme to involve energy-poor people
- moving towards an auction-based pricing rather than feed-in tariffs

Further, the Just Transition Fund is an idea to reallocate the finances from the carbon tax, paid by the power plants, in order to allocate to vulnerable consumers (Government Int 1). This fund was also mentioned by the other NGOs as a solution to support the vulnerable groups. According to one interview with USAID, the perception was that the topic is going to be tackled first, before the transition proceeds since the government aims to have the support of the local population. Therefore, a strong social assistance program must be developed.

5.3.2 Role of vulnerable groups

Concerning vulnerable populations, the EU-Office proposes identifying impoverished families and gradually adjusting tariffs while assisting them. However, the government lacks data on who the energy-poor families are, making targeted aid impossible (EU-Office Int). Furthermore, an NGO interview shows that they are in early phases of building the legal framework. Also, since Kosovar citizens are accustomed to low-cost prices, the government must ensure that disadvantaged individuals and marginalized groups are treated equitably. They also comment that the new energy strategy only briefly mentioned the objective of creating social schemes to support for the energy transition (BGF Int).

5.3.3 Who benefits?

According to ERO, in the long-run Kosovo will benefit since the renewable technologies will reduce air pollutions and improve the air quality in areas near the thermal power plants (ERO Int). During the energy crisis Kosovo benefitted from the feed-in tariffs since the electricity prices were raised while Kosovo consumed them for a fixed price (Government Int 2). KEDS also points out that the government benefits since investing in renewable energy can create new jobs, stimulate economic growth, reduce the country's dependence on fossil fuels and improve energy security.

Further, the interviews highlight that businesses investing into wind farms and household that have installed small-scale solar panels are benefiting. These help to decrease energy expenses and provide a dependable source of electricity, particularly in regions where access to the grid is limited or

unreliable (KEDS Int). The family who has partly ownership of the land of the windfarm in Kitka profits as well due to monetary compensation and land development as roads (Wind farm Int 1).

Furthermore, the energy market is not fully liberalized which is why consumers do not have a choice about what kind of energy or from which supplier they receive their power (BGF Int).

5.3.4 Transparency and inclusion

The stakeholders do acknowledge the importance of inclusion and are stating that there is a need for greater transparency and inclusivity in decision-making processes, especially involving civil society organizations and low-income households. There are voices within the society which are not heard or adequately represented in the transition while there have been improvements in the recent years of the government. Still, certain obstacles remain to overcome, particularly regarding the effective implementation of measures for transparency and the tackling of corruption and other forms of misconduct. The energy sector in the country has long been troubled by corruption and political interference, which have impeded the advancement towards a more diversified and sustainable energy system (KEDS Int).

However, the EU-Office takes the creation of Energy Strategy as an example and mentioned that it was a top-down approach (EU Office Int). It elaborates further on whether inclusion of civil society would have been important:

“I think yes, definitely. I think yes, it's civil society. It's really important to involve them. Its proper consultation with all the stakeholders is a prerequisite in order to know like a successful transition, because you have to take into consideration the concerns of, of different communities, different regions in the sense, so but it did not happen in this, this context. So if you would see it from this perspective, it means that, you know, like it was top down approach. So it didn't take into consideration the concerns of the people.” (EU-Office).

Further, the respondent argues that for the drafting of the energy strategy the civil society was not properly involved and a closed process where the civil society organizations were only invited but have not been in meaningful discussions with the organizations (EU-Office Int).

“Civil society inclusion was in a way with poor visibility rather than to get substance from them” Also, the business community was not involved within the draft either where their involvement also matters.” (EU-Office).

Besides, the NGOs stating that they are not necessarily working with low-income households or local communities. However, their work is published online while using social media (INDEP Int, USAID Int). Even though it is a challenge to engage the general public into the energy transition, there are also initiatives underway to promote their participation since the organizations are committed to promote renewable sources and energy efficiency measures for the energy transition (BGF Int).

Another respondent points out that the public opinion regarding the energy transition in Kosovo is not uniform (KEDS Int). The second interview with the government adds that there is not a lot of interest from people in the beginning but once the project is starting, then the people are interested. Additionally, it mentions that civil society is not very well organized because when the National Climate Plan was created the civil society was involved but engagement was very poor. There is a call to involve an organized civil society from the beginning of the process which is better (Government Int 2).

Ultimately, it is seen that there are measurements installed to include people and there are ideas on how to approach local communities in the efforts of the energy transition as letting them participate in the community energy projects, as engaging them in energy conservation and energy efforts, participating in public education and raising awareness about the benefits of renewable energy and energy efficiency (KEDS Int).

5.4 Environmental implication of the energy transition

Compared to coal production wind and solar energy have less emissions however this section deals with other topics around the long-term possibilities of the renewable energy aspects as well as hurdles to the sustainable transition when it comes to environmental governance. In general, the interviews show that in order to construct any energy project the law requires an environmental impact assessment (EIA) and public consultation process before it can be approved (KEDS Int). Further, local zoning ordinance play a determining role where wind and solar projects can be located (KEDS Int). Some interviewees agree that there are barely negative effects since solar and wind projects are mostly small-scale.

5.4.1 Land management issues

The interviews reveal that Kosovo have problems with the land ownership. The EU Office comments:

“It is an issue with the land ownership, the land ownership disputes, and the transfer of ownership.” (EU-Office).

For example, for the first solar panel auction the ownership of the land was part of the municipality but also part of it was the forestry agency. The transfer of ownership from an institution to the other was a lengthy process (EU-OFFICE). Therefore, the EU-Office highlights that Kosovo is aiming to address the issues regarding public land ownership in order to avoid complexity and timing issues (EU-OFFICE). Further, solar panels also compete with other land-use which is why the process is not moving very quickly (USAID Int). According to KOSTT the investors offer monetary payments for private lands to avoid conflicts (KOSTT Int).

One respondent has expressed concerns regarding corruption and lack of transparency in the land management processes, especially in allocating public land for specific development projects. Moreover, land grabbing is a potential issue where private entities obtain land for renewable energy projects without adequately consulting or gaining consent from affected communities. This can lead to community displacement, loss of livelihoods, and harm to cultural heritage and the environment (KEDS Int).

5.4.2 Land constraints/ other negative effects

The opinions on land constraints of the country Kosovo were not very clear throughout the interviews. There are perspectives that Kosovo is a small country and will not be able to offer the land to achieve the renewable energy targets, however solar panels can use the space on building’s roofs (KEDS Int, USAID Int). Further, in order to not use important land, the suggestion is to use land that has been environmentally degraded by coal mining and cannot be used for agriculture or other purposes (World Bank Int).

The NGOs do not seem to have experienced any negative effects and do not see that land space can be an issue since everything is still at a small-scale (INDEP Int, BGF Int). Besides, the USAID also mentions that it is quite early to see them in case there are some since there have not been implemented many solar farms yet (USAID Int). On the other side, the wind farms in Bajgora/Selac seem to be far away from neighboring people where effects from noise are minimal (SOWI Int). The interviews from the Kitka wind farm mentioned that the animals are not fully able to use the areas but in general the disadvantages were considered relatively low (Wind farm Int 1)

5.4.3 Public Awareness of environmental protection and the feeling of responsibility

In this regard the data illustrates that there is a relatively high level of awareness within official institutions dealing with environmental and energy topics in Kosovo (EU-Office Int, BGF Int). However, political will and budgetary support for addressing environmental issues are lacking (EU-Office).

Awareness among the broader population is low, due to deficiencies in the education system and a lack of government support. A similar study from Hyseni Spahiu et al., (2014) states that there are difficulties to integrate environmental education in the education system. Another study presents that residents in big cities or close to the power plants perceive their local environment as very polluted (UNDP, 2018). Consequently, the study reveals that there is still potential to increase the awareness among the population (KOSTT Int, EU-Office Int). NGOs are making progress in raising awareness and increasing the sense of responsibility regarding environmental issues (BGF Int). Yet, the wind farm investor SOWI comments:

“It takes more than schools in university takes a different type of mentality If you ask me personally, it just answers a simple question. Are you aware how you are leaving this world? And is this what you would love to see in the world is this how you would love to see the world in the future.” (SOWI Int).

Underlining SOWI’s point that the creation of laws and regulations are necessary but the responsibility and awareness within the institutions have to be intrinsic which itself is a challenge since there is a need to unlearn a certain type of thinking (SOWI Int).

The enforcement of the Polluter Pays Principle in Kosovo faces significant challenges due to underdeveloped monitoring and enforcement capacity, limited resources, and a relatively new legal framework (KEDS Int). Some stakeholders were not aware of this principle (INDEP Int, EU-Office Int). Despite these challenges, there have been some cases of enforcement, and Kosovo is gradually introducing a Carbon Pricing Mechanism through its energy strategy and National Plan for Climate and Environment (BGF Int).

5.4.4 Wind Farm Acceptance

The three interviews with regards to the wind farm showed that the people are aware why the wind farms are there. The neighbors who own the land receive a monthly rent and welcome the fact that the wind farm company established roads. Even though they mention noise as an

inconvenience and that before these areas were used for grazing and limit now the access for the fauna, the overall reception was positive. (Wind farm 1,2,3).

In tackling the final research question, the decarbonization delivers various social and environmental implications. While it requires significant investments, the shift can help to reduce air pollution, stimulate economic growth, and create jobs. However, the transition creates potential social inequalities as the costs of renewable may increase energy prices which exacerbates the energy poverty of vulnerable households. To ensure energy is more affordable, the government is implementing several measures such as providing subsidies. The lack of data on energy-poor households further complicates the situation. There is also a need for greater transparency and inclusivity in decision-making processes, especially involving civil society organizations and low-income households. There are voices within society that are not heard or adequately represented in the transition. The energy sector in Kosovo has long been troubled by corruption and political interference, which have impeded the advancement towards a more diversified and sustainable energy system. While the NGOs are committed to promoting renewable sources and energy efficiency measures for the energy transition, engaging low-income households and local communities remains a challenge. Moreover, the interviews present that there are stakeholders demonstrating that there are barely negative effects coming from solar or wind projects until now. However, land management issues like questions about land ownership and transparency over the land management processes may interfere with timeframes set by the Kosovo Energy Strategy, achieving the goals.

6 Discussion: Challenges and implications of the energy transition from a justice perspective

The application of the energy justice theory on the sustainable energy transition in Kosovo gives the possibility to gain a broader understanding of the interdependencies regarding the transformation of the energy sector and its interconnections of the stakeholders within the project. This framework also highlights that while energy projects aimed at addressing climate change may have positive effects, they can also lead to new forms of injustice and social-ecological tensions. However, the energy justice framework is quite abstract and translating it into a practical concept for use in the questionnaire was a significant challenge. This underlines its conceptual complexity and difficulty to operationalize and measure energy justice effectively. Furthermore, the energy justice concepts may not be widely understood and integrated into policy and decision-making processes.

As the results demonstrate the governance in sustainable development is a critical aspect to consider when discussing the just transition to sustainable energy in Kosovo. Energy justice issues can be deeply intertwined with political and power dynamics. The interview with the EU-Office (EU-Office Int), emphasized that without necessary investments, achieving this transition would not be possible. This perspective aligns with the idea put forth by Evans (2012), who argues that developing countries often lack the resources required to foster innovation and embrace clean technologies. This viewpoint raises concerns about the country's dependency on international actors. Ashdown et al., (2021) argues that good intentions of sustainable development does not mean that positive outcomes are generated because when foreign aid is conducted incorrectly it can lead to systems of adverse dependency, damaging cultural capital or the well-being of a community. Another source argues that sustainable development was developed in order to incorporate developing countries into global capitalism, bringing up another question whether this is a form of westernization (Adelman, 2018).

6.1 Distributional Justice: Availability and affordability issues

With regards to distributional justice, literature reveals that transitions produces winners and losers where the inclusivity and distributional aspects of the transition are highly necessary to understand (Carley & Konisky, 2020). As my research indicates the energy transition needs financial support for energy projects but also will lead to higher energy costs in the short-and mid-term, to cover the cost of infrastructure. This poses a big hurdle on the people of Kosovo.

Even though the electricity prices in Kosovo are the lowest within the region, the share of spendings on electricity are comparable to other Western Balkan countries. Therefore, energy affordability is a pressing concern that disproportionately affects the most poor and vulnerable communities. The limited availability of alternative energy sources the connectivity non-electricity sources remains low which is exacerbated by the people with limited financial resources to keep their homes warm (World Bank, 2019). Consequently, another research prospects that this forces the population to make difficult trade-offs such as choosing between heating and eating and facing an increasing likelihood of electric utility disconnection. These consequences have the potential to compromise mental and physical health and lead to further personal hardships (Carley & Konisky, 2020). These conditions exacerbate energy insecurity, and if the costs of energy rise as a result of the energy transition, these populations may be further disproportionately burdened and deteriorate the outcomes of the development (Adom et al., 2021; Carley & Konisky, 2020).

However, in the recent years there has been a focus on conducting studies aiming to reduce poverty and promote economic development (Yenneti & Day, 2016). Further, studies demonstrates that the alleviation of energy poverty is influenced by shifting from traditional fossil fuel to clean renewable energy sources (Adom et al., 2021; Zhao et al., 2022).

The role of the government is clear to expand their fundings and social schemes for the people. The current Social Assistance Scheme (SAS) is the only poverty-targeted program, and it is insufficient since it has low coverage and excludes most of the poor (World Bank, 2022).

Ultimately, land ownership problems might have transparency and corruption issues regarding the distribution of the land (KEDS Int), posing questions about access and availability of equal distributed land and information.

6.2 Procedural Justice: The politics of transition

Several studies have linked the perception of distributional fairness with the degree of procedural justice, highlighting the interconnection and interdependence of procedural and distributional justice (Yenneti & Day, 2016). This master thesis study reveals some conflicts within the processes of the country that can hinder the just energy transition.

Stimulating the private sector and attracting investors are highly important components to achieve the energy transition, however there are political factors that are daunting investments, as seen in other Western Balkan countries, such as current regulatory frameworks and political instability.

Despite regulatory policies being already implemented, on an operational level, there are still problems of corruption, government bureaucracy inefficiency, and unreliable planning processes (Đurašković et al., 2021). The bureaucracy problems and the process of the permits are also mentioned by the results but also other studies mention this as a problem in the installation of solar projects (Bula et al., 2022; Đurašković et al., 2021).

Consequently, these political challenges and lack of political willingness are causing risks in procedural justice while R. Heffron et al. (2021) indicates that an engagement with justice risks can support investors to commit to investments. A comparison to a case in Bosnia and Herzegovina demonstrates that even though strategies and plans for transition have been established, these are made in order to respond to pressure from foreign external factors like the EU. Thus, it relies on unreliable data, making it hard to form proper decisions (Damir et al., 2022).

These issues may wind up in a lack of implementation for Kosovo when political willingness and external pressures are not present. The interviews already expressed their mistrust in the capabilities of the government to drive the transition (SOWI Int, World Bank Int).

A similar case is the recognition of vulnerable groups which is embedded in the regulatory framework where in 2016 there has been an introduction of the vulnerable groups and the plan to build social schemes, however until now there is a lack of implementation. This underlines the gap in the installed procedure and operations (World Bank Int, INDEP Int).

Further, the top-down approach of the Energy Strategy as well as the bare focus on vulnerable groups or low-income households within the current transition works, may be rooted in the fact that the transition is in the early beginnings. However, the energy justice framework emphasizes the importance of the inclusion of every stakeholder from the beginning since misrepresentation also can lead to unjust outcomes (Jenkins et al., 2016). Healy & Barry (2017) argue that insufficient attention to justice implications of decarbonization policies and its interconnection between energy justice and climate change which can be attributed to inadequate and fragmented energy governance. As a result, this may be an inclination to either avoid or downplay justice claims in this context. Whether this is the case for Kosovo is unclear, but necessary that the policies are adjusting.

Still, the mentioning of the vulnerable groups in the Energy Strategy as well as some measurements in order to include those marginalized or low-income people reveal that there is in general an awareness within the institutions, but it still raises the question whether this is sufficient since actual plans about their approaches are still in the process.

Further, the results reveal that regarding the environmental topics from the wind farms and solar farms the stakeholders are not equally informed or knowledgeable about possible negative effects. Thus, this unequal knowledge is either based on misinformation, untransparent procedures or lack of knowledge. However, compared to the lignite industry the renewable energy infrastructure is an environmentally friendly alternative which in Kosovo seems to be a silver lining for air pollution. In comparison negative effects as noise disruptions, shadow flicker from wind turbines or land-use change appears to be less of an issue since it was not mentioned. However, since the wind and solar farms are still on a small-scale, the negative effects still can reach a greater problem in the future, once there are more productions.

6.3 Justice of recognition: Transparency and inclusion issues

The results mention that participation of the people within the public consultations in regard to the energy sector are lacking since the development of the energy sector is highly dynamic and not everyone is on the same educational level to understand. Here, Đurašković et al., (2021) highlights importance to prioritize active public engagement and increase awareness regarding the various economic, energy, and ecological advantages that the energy transition can offer.

The Energy Strategy purportedly incorporated public input, after establishing the strategy, as stated in the interview with government (Government Int 2). However, the outcome of this feedback remains uncertain as the strategy itself was not amended prior to its approval. It is plausible that this feedback will find recognition in the upcoming Action Plans.

The SOWI company has pointed out that there is a low GDP in Kosovo leading to the fact that other necessities than renewable or clean energy are more important like keeping the house warm in the cold winters where there is no monetary availability to use either wood or coal. These needs from vulnerable groups are necessary to be recognized and represented within the structures of the energy systems (SOWI Int).

For a country like Kosovo, where the energy sector heavily relies on coal production, transforming to renewable technologies presents a significant obstacle. This leads to the idea that sustainable technologies cannot be imposed on less-developed countries without including workers in the plans for transformation. These plans for this group of people are still lacking and are key indicators of a successful transition.

6.4 Future research

A country like Kosovo where the energy sector is in transition are many research opportunities.

One interesting area for further research could be exploring how different social groups perceive the energy transition. Understanding the views and perspectives of marginalized or underrepresented groups, such as low-income households or ethnic minorities, could shed light on how the energy transition may impact them differently and help identify potential barriers to their participation in the transition.

In that regard the gender discourse within a predominately men oriented energy sector would be interesting to analyze and see whether the different energy needs between men and women can cause an unequal distribution of benefits of modern energy technologies (Clancy & Skutsch, 2003).

7 Conclusions: Towards a just energy transition?

Kosovo has abundant resources in lignite, but on a global scale Kosovo is not the greatest emitter of carbon emissions. However, due to its commitments with the EU, it must adjust its energy sectors to meet environmental regulations, which slows down its economic development and hinders its ability to utilize its coal resources. However, in the face of the increasingly severe climate crisis, a pertinent question arises: Should developing countries undergo a phase of coal-powered development, comparable to that experienced by developed nations?

The sustainable energy transition pathway in Kosovo is at its beginning, starting to establish strategies attract investors and finance new technologies. These are necessary steps to be taken, creating the foundation of the transformation.

The energy justice frameworks enabled us to explore the energy transition and uncover further transition hurdles as well as social and environmental implications. For example, the locked-in technologies of the coal sector and the lack of finances not only for new technologies but also to overcome social barriers that are prevalent in the sustainability science as the SDG seven to ensure affordable, reliable, and modern energy for everyone are serious challenges. However, the research shows the need to include more stakeholders into the strategy creation and decision-making process as the inclusion of vulnerable groups. This will hopefully happen through the Energy and Climate plan in Kosovo, underlining that these challenges should be addressed in policy measure. Ultimately, public engagement appeared to be a need that has to be tackled as well.

Overall, this study provides a comprehensive analysis of the energy transition in Kosovo and identifies areas that need to be addressed to ensure a successful and sustainable transition to renewable energy supporting the research of sustainability science.

8 References

- Adelman, S. (2018). The Sustainable Development Goals, anthropocentrism and neoliberalism. In D. French & L. J. Kotzé (Eds.), *Sustainable Development Goals*. Edward Elgar Publishing. <https://doi.org/10.4337/9781786438768.00008>
- Adom, P. K., Amuakwa-Mensah, F., Agradi, M. P., & Nsabimana, A. (2021). Energy poverty, development outcomes, and transition to green energy. *Renewable Energy*, 178, 1337–1352. <https://doi.org/10.1016/j.renene.2021.06.120>
- Air Energy SH.P.K. (2020). AIR ENERGY. <http://kitkawpp.com/EN,2710/air-energy-shpk.html>
- Aman, M., & Winterscheid, C. (2022). Energy Poverty in Kosovo. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. <https://www.giz.de/en/downloads/giz2023-en-factsheet-energy-poverty.pdf>
- Arifi, B., & Späth, P. (2018). Sleeping on coal: Trajectories of promoting and opposing a lignite-fired power plant in Kosovo—ScienceDirect. <https://www.sciencedirect.com/science/article/pii/S2214629618303578>
- Ashdown, B. K., Dixe, A., & Talmage, C. A. (2021). The Potentially Damaging Effects of Developmental Aid and Voluntourism on Cultural Capital and Well-Being. *International Journal of Community Well-Being*, 4(1), 113–131. <https://doi.org/10.1007/s42413-020-00079-2>
- Avila, S. (2018). Environmental justice and the expanding geography of wind power conflicts. *Sustainability Science*, 13(3), 599–616. <https://doi.org/10.1007/s11625-018-0547-4>
- Balkan Green Foundation. (2023). About. Balkan Green Foundation. <https://www.balkangreenfoundation.org/en-us/about/>

- Berdoniqi, B. (2022). *Confronting Multiple Crises: Local and International Perspectives on Policy-Making in Kosovo—Chapter 3: Multi-level Governance and the Mapping of Actors Involved in the Just Energy Transition of Kosovo.*
- Boussauw, K. (2012). Challenges, threats and opportunities in post-conflict urban development in Kosovo. *Habitat International*, 36(1), 143–151. <https://doi.org/10.1016/j.habitatint.2011.06.011>
- Bryman, A. (2016). *Social Research Methods.* Oxford University Press.
- Bula, I., Sylva, F., Kopacek, P., Hajrizi, E., & Bula, E. (2022). Cost Oriented Renewable Energy Source Solution: Design and Modeling of Photovoltaic Systems on the Innovative Campus UBT. *IFAC-PapersOnLine*, 55(39), 330–335. <https://doi.org/10.1016/j.ifacol.2022.12.045>
- Carley, S., & Konisky, D. M. (2020). The justice and equity implications of the clean energy transition. *Nature Energy*, 5(8), 569–577. <https://doi.org/10.1038/s41560-020-0641-6>
- Ciuta, I., Gallop, P., Chatzieftheriou, T., & Mantzaris, N. (2022). To cite this study: The Western Balkan power sector: Between crisis and transition.
- Clancy, J. S., & Skutsch, M. (2003). Finding the energy to address gender concerns in development.
- Damir, A., Camargo, M., Takorabet, N., & Music, M. (2022). Overview of challenges and requirements for sustainable energy transition in Western Balkans with focus on Bosnia and Herzegovina: A literature review. 2022 IEEE 28th International Conference on Engineering, Technology and Innovation (ICE/ITMC) & 31st International Association For Management of Technology (IAMOT) Joint Conference, 1–8. <https://doi.org/10.1109/ICE/ITMC-IAMOT55089.2022.10033158>

- Đurašković, J., Konatar, M., & Radović, M. (2021). Renewable energy in the Western Balkans: Policies, developments and perspectives. *Energy Reports*, 7, 481–490. <https://doi.org/10.1016/j.egy.2021.07.104>
- Energy Community. (2022). Just Transition Initiative—Energy Community Homepage. <https://www.energy-community.org/regionalinitiatives/Transition.html>
- Energy Regulatory Office. (2021). Annual Report 2021.
- ERO. (n.d.). About Us | ZRRE. Retrieved 2 May 2023, from <https://www.ero-ks.org/zrre/en/per-ne>
- ERO. (2016). V_810_2016—On approval of the Feed-In Tariffs for generation of electricity from Renewable Energy Sources.
- EU-Office. (2021). Who we are | EEAS. https://www.eeas.europa.eu/kosovo/who-we-are_en?s=321
- European Commission. (n.d.). Energy Community. Retrieved 4 January 2023, from https://energy.ec.europa.eu/topics/international-cooperation/international-organisations-and-initiatives/energy-community_en
- Ezilon. (2009). Detailed Political Map of Kosovo—Ezilon Maps. <https://www.ezilon.com/maps/europe/kosovo-maps.html>
- Fairhead, J., Leach, M., & Scoones, I. (2012). Green Grabbing: A new appropriation of nature? *Journal of Peasant Studies*, 39(2), 237–261. <https://doi.org/10.1080/03066150.2012.671770>
- Gallop, P. (2020). ContourGlobal finally quits Kosova e Re coal plant. *Bankwatch*. <https://bankwatch.org/blog/contourglobally-finally-quits-kosova-e-re-coal-plant>

- Geels, F. W., Berkhout, F., & van Vuuren, D. P. (2016). Bridging analytical approaches for low-carbon transitions. *Nature Climate Change*, 6(6), Article 6. <https://doi.org/10.1038/nclimate2980>
- Gielen, D., Boshell, F., Saygin, D., Bazilian, M. D., Wagner, N., & Gorini, R. (2019). The role of renewable energy in the global energy transformation. *Energy Strategy Reviews*, 24, 38–50. <https://doi.org/10.1016/j.esr.2019.01.006>
- giz. (2022). Kosovo. <https://www.giz.de/en/worldwide/298.html>
- Guðmundsdóttir, H., Carton, W., Busch, H., & Ramasar, V. (2018). Modernist dreams and green sagas: The neoliberal politics of Iceland’s renewable energy economy. *Environment and Planning E: Nature and Space*, 1(4), 579–601. <https://doi.org/10.1177/2514848618796829>
- Heale, R., & Twycross, A. (2018). What is a case study? *Evidence-Based Nursing*, 21(1), 7–8. <https://doi.org/10.1136/eb-2017-102845>
- Healy, N., & Barry, J. (2017). Politicizing energy justice and energy system transitions: Fossil fuel divestment and a “just transition”. *Energy Policy*, 108, 451–459. <https://doi.org/10.1016/j.enpol.2017.06.014>
- Heffron, R., Connor, R., Crossley, P., Mayor, V. L.-I., Talus, K., & Tomain, J. (2021). The identification and impact of justice risks to commercial risks in the energy sector: Post COVID-19 and for the energy transition. *Journal of Energy & Natural Resources Law*, 39(4), 439–468. <https://doi.org/10.1080/02646811.2021.1874148>
- Heffron, R. J. (2022). Applying energy justice into the energy transition. *Renewable and Sustainable Energy Reviews*, 156, 111936. <https://doi.org/10.1016/j.rser.2021.111936>

Henry, M. S., Bazilian, M. D., & Markuson, C. (2020). Just transitions: Histories and futures in a post-COVID world. *Energy Research & Social Science*, 68, 101668. <https://doi.org/10.1016/j.erss.2020.101668>

Hyseni Spahiu, M., Korca, B., & Lindemann-Matthies, P. (2014). Environmental Education in High Schools in Kosovo—A teachers' perspective. *International Journal of Science Education*, 36(16), 2750–2771. <https://doi.org/10.1080/09500693.2014.933366>

INDEP. (2002a). About us – indep.info. <https://indep.info/en/about-us/>

INDEP. (2002b). Indep.info – Donors. <https://indep.info/en/front-page/>

IPCC, R., Xiao, C., & Yassaa, N. (2023). SYNTHESIS REPORT OF THE IPCC SIXTH ASSESSMENT REPORT (AR6) IPCC, 2023: Summary for Policymakers. In: *Climate Change 2023: Synthesis Report. Summary for Policymakers*. In: *Climate Change 2023: Synthesis Report. A Report of the Intergovernmental Panel on Climate Change. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (Eds.)]*. IPCC, Geneva, Switzerland, (in Press).

Jenkins, K., McCauley, D., & Forman, A. (2017). Energy justice: A policy approach. *Energy Policy*, 105, 631–634. <https://doi.org/10.1016/j.enpol.2017.01.052>

Jenkins, K., McCauley, D., Heffron, R., Stephan, H., & Rehner, R. (2016). Energy justice: A conceptual review. *Energy Research & Social Science*, 11, 174–182. <https://doi.org/10.1016/j.erss.2015.10.004>

- Jerneck, A., Olsson, L., Ness, B., Anderberg, S., Baier, M., Clark, E., Hickler, T., Hornborg, A., Kronsell, A., Lövbrand, E., & Persson, J. (2011). Structuring sustainability science. *Sustainability Science*, 6(1), 69–82. <https://doi.org/10.1007/s11625-010-0117-x>
- Just Transition Center. (2017). *Just Transition A Report for the OECD*.
- Kates, R. W., Clark, W. C., & Corell, R. (2001). Sustainability Science | Science. <https://www.science.org/doi/10.1126/science.1059386>
- Knez, S., Štrbac, S., & Podbregar, I. (2022). Climate change in the Western Balkans and EU Green Deal: Status, mitigation and challenges. *Energy, Sustainability and Society*, 12(1), 1. <https://doi.org/10.1186/s13705-021-00328-y>
- KOSTT SH.A. (n.d.). KOSTT SH.A. Retrieved 2 May 2023, from <https://www.kostt.com/Home/About>
- Krasniqi, N., & Ymeri, A. (2022). Electricity production from solar Energy in Kosovo and Environmental Impacts. *IFAC-PapersOnLine*, 55(39), 302–307. <https://doi.org/10.1016/j.ifacol.2022.12.039>
- Lappe-Osthege, T., & Andreas, J.-J. (2017). Energy justice and the legacy of conflict: Assessing the Kosovo C thermal power plant project. *Energy Policy*, 107, 600–606. <https://doi.org/10.1016/j.enpol.2017.03.006>
- Liu, H., Khan, I., Zakari, A., & Alharthi, M. (2022). Roles of trilemma in the world energy sector and transition towards sustainable energy: A study of economic growth and the environment. *Energy Policy*, 170, 113238. <https://doi.org/10.1016/j.enpol.2022.113238>
- Meadowcroft, J. (2007). Who is in Charge here? Governance for Sustainable Development in a Complex World*. <https://doi.org/10.1080/15239080701631544>

- Mexhuani, A., Bylykbashi, K., Jupaj, B., Shala, A., & Rubini, L. (2022). The state of the electrical sector in Western Balkan countries. Case study: Republic of Kosovo. *Journal of Physics: Conference Series*, 2385(1), 012101. <https://doi.org/10.1088/1742-6596/2385/1/012101>
- Newell, P., & Mulvaney, D. (2013). The political economy of the 'just transition': The political economy of the 'just transition'. *The Geographical Journal*, 179(2), 132–140. <https://doi.org/10.1111/geoj.12008>
- Republic of Kosovo. (2016). Law on Energy Kosovo.
- Republic of Kosovo. (2023). Energy Strategy of the Republic of Kosovo 2022 -2031.
- Santos Ayllón, L. M., & Jenkins, K. E. H. (2023). Energy justice, Just Transitions and Scottish energy policy: A re-grounding of theory in policy practice. *Energy Research & Social Science*, 96, 102922. <https://doi.org/10.1016/j.erss.2022.102922>
- Sovacool, B. K. (2014). What are we doing here? Analyzing fifteen years of energy scholarship and proposing a social science research agenda. *Energy Research & Social Science*, 1, 1–29. <https://doi.org/10.1016/j.erss.2014.02.003>
- Sovacool, B. K., & Dworkin, M. H. (2015). Energy justice: Conceptual insights and practical applications. *Applied Energy*, 142, 435–444. <https://doi.org/10.1016/j.apenergy.2015.01.002>
- Sriram, N., & Shahidehpour, M. (2005). Renewable biomass energy. *IEEE Power Engineering Society General Meeting, 2005*, 612-617 Vol. 1. <https://doi.org/10.1109/PES.2005.1489459>
- Todorović, I. (2020, July 16). Hoti: 105 MW wind park Bajgora in Kosovo* to come online by April. *Balkan Green Energy News*. <https://balkangreenenergynews.com/hoti-105-mw-wind-park-bajgora-in-kosovo-to-come-online-by-april/>

- UNDP. (2018). How do Kosovans perceive environmental issues? | United Nations Development Programme. UNDP. <https://www.undp.org/kosovo/news/how-do-kosovans-perceive-environmental-issues>
- United Nations. (n.d.-a). Goal 7 | Department of Economic and Social Affairs. Retrieved 5 April 2023, from <https://sdgs.un.org/goals/goal7>
- United Nations. (n.d.-b). The Paris Agreement. United Nations; United Nations. Retrieved 10 January 2023, from <https://www.un.org/en/climatechange/paris-agreement>
- USAID. (2023a, April 21). Kosovo. U.S. Agency for International Development. <https://www.usaid.gov/kosovo>
- USAID. (2023b, October 1). KOSOVO ENERGY SECURITY OF SUPPLY | Fact Sheet | Kosovo. U.S. Agency for International Development. <https://www.usaid.gov/kosovo/fact-sheets/kosovo-energy-security-supply>
- Wang, X., & Lo, K. (2021). Just transition: A conceptual review. *Energy Research & Social Science*, 82, 102291. <https://doi.org/10.1016/j.erss.2021.102291>
- WBIF Secretariat. (2019). Investing in Clean Energy in the Western Balkans.
- Wiese, K. (2020). Energy 4 all? Investigating gendered energy justice implications of community-based micro-hydropower cooperatives in Ethiopia. *Innovation: The European Journal of Social Science Research*, 33(2), 194–217. <https://doi.org/10.1080/13511610.2020.1745059>
- Williams, S., & Doyon, A. (2019). Justice in energy transitions. *Environmental Innovation and Societal Transitions*, 31, 144–153. <https://doi.org/10.1016/j.eist.2018.12.001>

World Bank. (2017). INTERNATIONAL DEVELOPMENT ASSOCIATION INTERNATIONAL FINANCE CORPORATION MULTILATERAL INVESTMENT GUARANTEE AGENCY COUNTRY PARTNERSHIP FRAMEWORK FOR REPUBLIC OF KOSOVO FOR THE PERIOD FY17–FY21.

World Bank. (2018, October). Energy in Kosovo [Text/HTML]. World Bank. <https://www.worldbank.org/en/country/kosovo/brief/energy-in-kosovo>

World Bank. (2019). Poverty and Distributional Analysis of Electricity Poverty and Protection of Vulnerable Customers in Kosovo. World Bank. <https://doi.org/10.1596/35265>

World Bank. (2022). Western Balkans Social Protection Situational Analyses KOSOVO.

World Bank. (2023). Who We Are [Text/HTML]. World Bank. <https://www.worldbank.org/en/who-we-are>

Yenneti, K., & Day, R. (2016). Distributional justice in solar energy implementation in India: The case of Charanka solar park. *Journal of Rural Studies*, 46, 35–46. <https://doi.org/10.1016/j.jrurstud.2016.05.009>

Yin, R. K. (2009). *Case Study Research: Design and Methods*. SAGE.

Zhao, J., Dong, K., Dong, X., & Shahbaz, M. (2022). How renewable energy alleviate energy poverty? A global analysis. *Renewable Energy*, 186, 299–311. <https://doi.org/10.1016/j.renene.2022.01.005>

9 Appendices

9.1 Appendix A: Dimensions of Justice by Sovacool & Dworkin (2015)

Eight Aspects	Explanation
1 Availability	Availability is the most basic element, for it involves the ability of an economy, market, or system to guarantee sufficient energy resources when needed. It therefore transcends concerns related to security of supply, sufficiency, and reliability, and it encompasses a range of different dimensions. It includes the physical resource endowment of a particular country or region, as well as the technological solutions that region utilizes to produce, transport, conserve, store, or distribute energy. It includes the amount of investment needed to keep the system functioning, essentially having a robust and diversified energy value chain, as well as promoting infrastructure that can withstand accidental and intentional disruption.
2 Affordability	A second core element is the basic affordability of energy services, a term that means not just lower prices so that people can afford warm homes and well-lit dwelling spaces, but also energy bills that do not overly burden consumers. Affordability thus encompasses stable prices (minimal volatility) as well as equitable prices that do not require lower-income households to expend disproportionately larger shares of their income on essential services. Implicit with this criterion is the idea that highly available energy fuels and services is meaningless unless households and other consumers can afford to access and utilize them.

3 Due Process Due process seeks to ensure that the potential for stakeholder participation in the energy policymaking process at least roughly matches the importance (in aggregate and to each person affected) of the matter at stake and the irrevocability of any decisions that may be reached. It also necessitates effective recourse through judicial and administrative remedies and forms of redress. More specifically, the decision-making principle suggests that communities must be involved in deciding about projects that will affect them; they must be given fair and informed consent; environmental and social impact assessments must involve genuine community consultation; and neutral arbitration should be available to handle grievances.

4 Good Governance This principle suggests that, to minimize corruption and improve accountability, all people should have access to high-quality information about energy and the environment. Information, accountability, and transparency have become a central element of promoting “good governance” throughout a variety of sectors, a term that centers on democratic and transparent decision-making processes and financial accounting, as well as effective measures to reduce corruption and publish information about energy revenues and policies. Access to information and transparent frameworks for preserving that access have been known under certain conditions also to encourage democracy, increase business confidence, and enhance social stability.

5 Sustainability Sustainability refers to what the Brundtland Commission termed “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. In an energy context it refers to the duty of states to ensure the sustainable use of natural resources. It means that countries have sovereign rights over their natural resources, that they have a duty not to deplete them too rapidly, and that they do not cause undue damage to their environment or that of other states beyond their jurisdiction. Ecologist Paul Hawken eloquently summed up sustainability when he wrote that it involves achieving a state where “the demands placed upon the environment by people and commerce can be met without reducing the capacity of the environment to provide for future generations. It can also be expressed in the simple terms of an economic golden rule for the restorative economy: leave the world better than you found it, take no more than you need, try not to harm life or the environment, make amends if you do”

6 Intergenerational Equity Instead of emphasizing distributive justice between different communities in the present, intergenerational equity is about distributive justice between present and future generations. It holds that future people have a right to enjoy a good life just like us contemporaries, yet one undisturbed by the temporal damage our energy systems will inflict over time. Consequently, each of us has a moral responsibility to ensure that today’s children and future generations inherit a global environment at least no worse than the one we received from our predecessors—and that responsibility extends to preventing climate change and making strategic investments in something known as “adaptation” to increase the needed resilience of communities.

7 Intragenerational Equity

Intragenerational equity—that present people have a right to access energy services fairly—finds its roots in modern theories of distributive justice. Philosophers call it “distributive” justice because it deals intently with three aspects of distribution:

1. What goods, such as wealth, power, respect, food, or clothing, are to be distributed?
2. Between what entities are they to be distributed?
3. What is the proper mode of distribution—based on need, based on merit, based on property rights, or something else?

Distributive justice argues that, if physical security is a basic right, then so are the conditions that create it, such as employment, food, shelter, and also unpolluted air, water, and other environmental goods. People are, therefore, entitled to a certain set of minimal energy services which enable them to enjoy a basic minimum of wellbeing.

8 Responsibility

The final principle – responsibility – holds that nations have a responsibility to protect the natural environment and minimize the production of negative externalities, or energy-related social and environmental costs. This element of energy justice is perhaps the most controversial and complex, as it blends together four somewhat different notions of “responsibility”: a responsibility of governments to minimize environmental degradation, a responsibility of industrialized countries responsible for climate change to pay to fix the problem (the so-called “polluter pays principle”), a responsibility of current generations to protect future ones, and a responsibility of humans to recognize the intrinsic value of nonhuman species, adhering to a sort of “environmental ethic.”

9.2 Appendix B: Interview Guides

Questionnaire Guide 1

Intro: How are you involved in the energy transition?

1. How are you understanding energy justice in Kosovo?
2. How does it relate to an just energy transition?
3. Do you think that the claims of the Kosovo Energy Strategy are realistic to achieve? How?
4. One aim is to promote sustainability through renewable energy in the sectors, when will these be affordable electricity for the vulnerable groups?
5. What role do the vulnerable groups play in the process of the energy transition in Kosovo?
6. How are you engaging with local organizations to identify areas where renewable energy could have the greatest impact on reducing energy poverty or improving energy access?
7. What do you think are the greatest challenges in order to create a just transition?
8. How are you addressing any potential negative impacts or unintended consequences of the transition?
 - a. How are you ensuring that low-income households (energy poor households) and vulnerable populations have access to affordable renewable energy?
 - b. In the installations of solar and wind energy have there been any assessments on whether there has been displacements of communities? → how are you working to avoid displacement of communities or loss of cultural heritage?
 - c. Or land grabbing for the energy infrastructure?

9. How are you addressing issues of environmental/energy justice in the development and implementation of energy policies and programs, and how are you working to minimize negative impacts on local ecosystems and wildlife?

10. How big is the importance of international investments? Is there a dependency?

Questionnaire Guide 2

1. How are you involved in the energy transition in Kosovo?

Defining energy justice/ just energy transition

1. How would you judge is the availability of wind and solar possibilities in Kosovo?
2. How is the fair distribution of energy within the population made sure?
3. Who is currently benefiting from renewable energy? Who has access to renewable energy sources?
4. How fair do you think is the current energy transition in Kosovo?
5. How are they gonna be made affordable for the low-income society?

Due Process:

1. How are the local communities/ low-income households involved in your work regarding the energy transition?
2. How transparent is the implementation and decision-making process regarding your work and the energy transition?
3. How is the participation of the low-income households? Are people happy to engage?
4. Do you think they should be included more in the current energy policy making about the energy transition?

Good Governance:

1. Is there a plan what happens with the workers from the power plants?
2. What is the greatest challenge here?

Is it sustainable?

1. Do you know how the land is distributed in Kosovo for these wind and solar projects?
2. Do you think that space will be an issue for the solar and wind energy?
3. Are there any issues with displacement of communities for the new renewable projects?
4. Is there already a conflict in land management visible in Kosovo?
 1. Can conflicting land management (land grabbing) for energy infrastructure become an issue?

Intragenerational equity → distributive justice

1. With this transition what do you think what will become with the energy poverty issue? Bigger? Smaller?

Intergenerational equity:

1. Do you believe that the next generation will see a carbon-neutral society in Kosovo?

Responsibility:

1. Do you think that there is a feeling of responsibility in the official institutions of Kosovo when it comes to protect the natural environment?
 1. What about the broad population?
 2. How is the polluter pays principle enforced in Kosovo? What are the problems associated with that?

Kosovo Energy Strategy:

1. Further, do you think that the claims of the Kosovo Energy Strategy are realistic to achieve?
2. How is Kosovo's ability to install these amounts of renewable energy sources?
 - a. Coal Phase out by 2050?
 - b. Increase of PV 600 + 100 MW (prosumer) and WInd 600 MW
 - c. 30% renewables?
 - d. Where do you see the biggest hurdles?

9.3 Appendix C: Interview conducted overview

Date	Interview/Exchange	Format	Interview Guide
22.02.	Informal Meeting Engineering Faculty 2 different people	Not included	
23.02.	Informal Meeting Engineering Faculty	Not included	
24.02	Informal Meeting Engineering Faculty	Not included	
03.02.	Informal Meeting Engineering Faculty	Not included	
07.03.	Online Interview GIZ	Transcription	Questionnaire 1
08.03.	Interview Government 1	Transcription	Questionnaire 1
08.03.	Exchange CNVP	Not included	
10.03.	Interview ERO	Transcription	Questionnaire 1
10.03	Infromal Meeting Researcher	Notes	
13.03.	Interview Government 2	Notes	Questionnaire 2
16.03.	SOWI	Transcription	Questionnaire 2
17.03.	Informal Meeting Researcher 2	Not included	
17.03.	EU-Office	Transcription	Questionnaire 2
17.03.	Association women in energy	Not included	
20.03.	Wind Farm - Interviews local people 3 people	Transcriptions/Notes	Questionnaire 2
21.03.	Interview KOSTT	Transcription	Questionnaire 2
22.03.	Interview INDEP	Transcription	Questionnaire 2
22.03.	Online Interview World Bank	Notes	Questionnaire 2

23.03.	Informal Online Meeting Researcher Suisse University	Not included	Questionnaire 2
26.03.	KEDS	Written Answers	Questionnaire 2
27.03.	BGF	Written Answers	Questionnaire 2
20.04.	Online Interview USAID	Notes	Adopted Questionnaire 2

Total Exchanges: 25

9.4 Appendix D: NVivo Nodes for analysis use

The table below is giving information on the categories as well as the nodes used for the analysis of the results using NVivo.

Name	^	Dateien	Referenzen
∨ ● Affordability		7	22
● Auctions		4	10
● Plans		4	12
∨ ● Availability		4	6
● Enough potential		4	10
● Who benefits		5	9
● Discussion		2	4
● Due Process		7	16
∨ ● Good Governance		7	16
● Involve them		5	10
● transparent		5	12
● Intergenerational equity		5	6
● International investments		5	8
● Intragenerational equity		3	4
∨ ● Kosovo Energy Strategy		7	15
● Hurdles		7	13
● Solar projects		3	5
● who involved		2	2
● Kosovo Energy system current		5	28
● Responsibility		5	13
∨ ● Sustainability		3	8
● land issues		4	12
● wind farm		1	1