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Energy transition in support of climate conditions for Renewable Energy Sources

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Abstract. The global perspective with its energy components offers an exploration of the advanced technological potential related to the benefits of the energy transition in renewable energy sources. The stability of the energy system integrated in pan-European markets with the concept of flexible and efficient generating capacities guarantees unified functionality of the energy system. The paper deals with the transition of the energy strategy with classical generation with an outdated system towards the path of reducing CO2 emissions with deep transformation of electricity generation with renewable energy sources. In this paper, the European directive related to the decarburizations of the generating capacities of Kosovo's thermal power plants and their replacement in the common market with the pan-European sector has been dealt with in a special way. In order to address the emergency of the generation transition according to the last strategy, Kosovo has significantly increased the integration of renewable energies in the mix of the current energy system. The challenge of this paper is the harmonization of policy-making with strategic investment projects that require increased flexibility with regulatory adaptation documents according to developed technological trends. The objective of this work is to increase the efficiency and effectiveness of energy in the final consumption of the part of consumers. The integration of the common energy market Kosovo - Albania will enable the optimization of strategic investments related to the removal of energy exchange barriers.

Keywords: Energy strategy, RES, Sustainable development, Market integration, Efficiency and effectiveness.

1 Introduction

Currently, the lack of electricity generation potential in Kosovo does not allow sustainable development. Renewable energy is one of the possibilities that is promised for achieving the goals of covering consumption. Kosovo's Energy Strategy is trying to adopt different ways to ensure affordable and accessible energy supply for its residential and commercial sectors. In order to achieve the increase of investments in the development of renewable energy, it is necessary to harmonize development policies with the strategies of the European Union. This paper aims to review the current potential of electricity generation and renewable energy generation which is strategic for achieving sustainable development in Kosovo.

The EU's energy strategy is committed to reducing greenhouse gas emissions by 95% by 2050 in the context of reductions required by industrialized countries through climate and energy policies. The unifying policies and regulatory measures of the EU to achieve the Energy objectives are ambitious. They have helped and are expected to be key in reducing emissions by around 40% by 2050. However, they will still be

insufficient to meet the EU's 2050 decarburization target, as only less than half of the decarburization target will be reached in 2050.
Despite the ongoing challenges caused by the 2020 pandemic, delays and prices of raw materials and goods at a record level, the additions of energy production capacities with renewable forms of energy according to the results of the International Energy Agency in 2023 marked an increase for 6% and broke another record, reaching almost 315 GW. This increase is slightly higher than the forecast for renewable energy for 2023. Globally, the 18% decline in the annual share of wind capacity in 2023 was offset by an increase in solar PV and growth in hydropower installations. According to the IEA, comparisons have been made for the different types of renewable energy in the last three years, this is part of the report published in May of this year, 2015-2023. (IEA - The International Energy Agency, 2023).

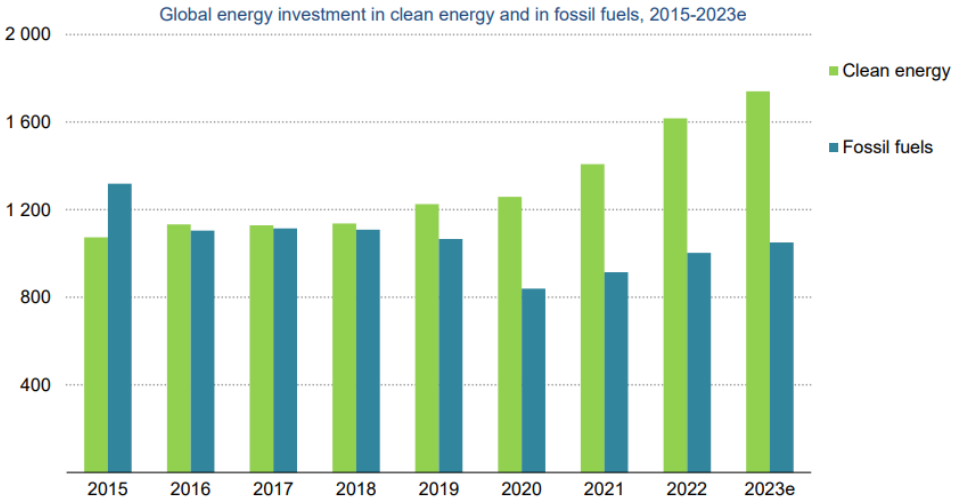

Figure 1 Growth of renewable energy capacities, 2019-2021 (IEA- The International Energy Agency, 2023)

The recovery from the damage caused by the COVID 19 pandemic and the response to the global energy crisis is very important to encourage investments in renewable energy. Our BER estimates for 2023 compared to 2021 have increased significantly in relation to fossil fuel investments, the ratio is 24% to 15%. These situations destabilize the fuel markets which are caused by Russia. In the global arena, China leads in renewable energy production for 2023, accounting for 46% of the increase in renewable capacity worldwide. The rapid momentum of BER technology has changed the approach of the EU and the investment alarm has been raised for the coverage of consumption within a very short time. Expansion of the PV system continued to grow thanks to investment tax credits (ITCs) available until 2023-2024 providing a relatively stable policy environment, although supply chain and logistical challenges prevented much faster growth. (IEA - The International Energy Agency, 2023).

2 The objective of this paper

The purpose of this paper is to reflect the current state of electricity generation by means of renewable sources in Europe according to the IEA and the Energy Strategy in the Republic of Kosovo, the structure of WEI 2023, the efficiency and effectiveness of energy, the International Agency, presenting the directives , plans and harmonization of long-term energy strategies drawn up and approved by the European Commission. Also, from the data collected from various researches, it will be possible to analyze how long-term goals set by the Paris Agreement, etc., have been met. In addition, the paper will also elaborate on renewable capacity in Kosovo, the strategy for this decade and how the requirements of the strategy have been met until 2025, as well as how it is planned to meet the target set by the European Green Deal for the next decades.

2.1 Strategies of renewable resources for Europe

Sustainable medium- and long-term strategies are essential to help achieve the necessary economic transformation and broader sustainable development goals, and to move towards the long-term goal set by the Paris Agreement.

These strategies aim at increasing energy efficiency in Europe, building a common European energy market; achieving the highest level of security, sustainable supply for energy consumers (citizens and businesses), European leadership in the development of energy technologies and innovation, as well as sustainable partnership in the energy sector. (EU- Long term strategies, 2020).

The Paris Agreement is an international treaty, the first universal, legally binding global agreement on climate change, adopted at the Paris climate conference (COP21) in December 2015. The objective of this strategy is to keep the increase in global average temperature below 2°C. above pre-industrial levels and pursuing efforts to limit temperature increase to 1.5°C. The European Union has set ambitious targets for reducing greenhouse gas emissions. Net emissions must fall to 45% of their 1990 levels by 2030 and to zero by 2050. (Richard S. J. Tol, 2021)

The goals of the Paris Agreement are:

• A long-term objective to keep the rise in global average temperature below 2°C above pre-industrial levels;

• Aim to reach 1.5°C, as this would significantly reduce the risks and impacts of climate change;

• Increase the ability to adapt to the negative effects of climate change and promote climate-resilient development and low greenhouse gas emissions, in a way that does not threaten food production. (Saheed Matemilola, 2020).

2.2 REPowerEU strategy

The world is facing an energy crisis, exacerbated by the Russian invasion of Ukraine in February 2022, and a climate emergency. In response to the difficulties and disruption of the global energy market caused by the Russian invasion of Ukraine, the European Commission introduced the REPowerEU Plan.

This plan is supported by financial and legal measures to build the infrastructure and new energy system that Europe needs. (EU Commission-REPowerEU, 2022)

The EU's commitment to increasing the use of renewable resources was presented on 18 May 2022 as part of the REPowerEU Plan, which looks at how the EU supports a global, clean and fair energy transition to ensure energy durable, safe and affordable. Strategy:

• Aims to reduce the overall demand for energy,

• Encouraging energy savings, energy efficiency and development of renewable resources,

• Preparation for the further integration of the energy market in the EU,

• Repair of energy infrastructure, etc

The new geopolitical and energy market realities require us to drastically accelerate our clean energy transition and increase Europe's energy independence from unreliable suppliers and unsustainable fossil fuels.

REPowerEU is the European Commission's plan to make Europe independent of Russian fossil fuels well before 2030, in light of the Russian occupation of Ukraine.

85% of Europeans believe that the EU should reduce its dependence on Russian gas and oil as soon as possible to support Ukraine. By acting as a Union, Europe can achieve this more quickly.

The REPowerEU plan sets out a series of measures to rapidly reduce dependence on Russian fossil fuels and accelerate the green transition, while increasing the sustainability of the EU-wide energy system. REPowerEU seeks to achieve the energy goals: saving energy, producing clean energy and diversifying our energy supplies. (EU Commission-REPowerEU, 2022).

2.2 Energy strategy until 2030

Building on the 25% target for 2025, the revised Renewable Energy Directive 2018/2001/EU set a new binding renewable energy target for the EU for 2030 of at least 32%, with a revision possible until 2023. (European Commission, 2022)

At the October 2014 European Council, the EU set the target of reducing atmospheric gases by at least 40% below 1990 levels by 2030, along with other key building blocks of the 2030 policy framework. it also set targets of at least 27% for renewable energy and energy efficiency by 2030. The EU's goal was to make the economy and energy system more competitive, secure and sustainable.

The strategy drawn up with objectives for the energy of the European market until 2030 aims to:

- 40% reduction in emissions compared to 1999 values
- 27% of the energy consumed should be produced by RES
- 27% energy saving (EU- Long term strategies, 2020)

2.4 European Green Deal - Energy strategy until 2050

In November 2018, the European Commission presented its long-term strategic vision for a modern, competitive and climate-neutral economy by 2050, which seeks to create a vision of how the European Union can fulfill the Paris Agreement. The EU aims to be climate neutral by 2050 – an economy with net zero greenhouse gas emissions. This objective is at the heart of the European Green Deal and in line with the EU's commitment to global climate action under the Paris Agreement. This 2050 strategy is a key part of the European Green Deal and in line with the EU's commitment to global climate action under the Paris Agreement.

The objectives of this strategy are:

- Decarbonization of the energy sector; Dominance of Carbon Capture & Storage (CCS) technology in thermal power plants based on fossil resources (about 32%)
- Renewable energy sources; 75% referred to energy consumption and 97% referred to electricity consumption
- Energy efficiency; of 41% referred to the peak time of 2005-2006. (EU- Long term strategies, 2020).

3. RES Strategy in Kosovo: National Action Plan for Renewable Energy Sources

Renewable Energy Sources (REE) represent an important source of energy that Kosovo has, with a potential that is still underutilized. The use of these resources for energy production constitutes a long-term objective for the realization of the goals of the country's energy policy, such as: supporting general economic development; increasing security of energy supply and environmental protection. In view of these goals, there is a need for the application of fiscal and financial stimulus measures for all types of RES, including the implementation of the support scheme.

RES targets are planned to be met by photovoltaic energy, solid biomass, wind, existing HCVs, new HCVs. (Ministry of Economic Development, 2017)

Kosovo has achieved 25.69% of renewable energy in 2019, exceeding its target of 25% for 2020. However, the development in the field of renewable energy for electricity and its import are still very low. (The Energy Community, 2022)

In order to stimulate the use of renewable energy sources, a feed-in tariff support scheme has been established in Kosovo for water energy, wind energy, photovoltaic energy and biomass. (Ministry of Economic Development, 2017)

The Kosovo Energy Strategy 2017-2026 sets a target of 400-470 MW of installed capacity in RES sources.

- Solar PV is estimated to contribute 26.5 to 75 MW by 2026, depending on the scenario. So far, 10 MW or 38-13% of the estimate12 have been achieved.
- Biomass is estimated to contribute 11 MW by 2026. So far 1.2 MW or 11% of this goal has been achieved.
- Wind power is estimated to contribute 130 to 150 MW by 2026, depending on the scenario. So far, 33.75 MW or 26-23% of this goal have been achieved.
- New HPPs are estimated to contribute 160 MW by 2026. So far 6.2 MW or 4% of this goal has been achieved. (The Western Balkans Investment Framework (WBIF) -

European Commission, 2023).

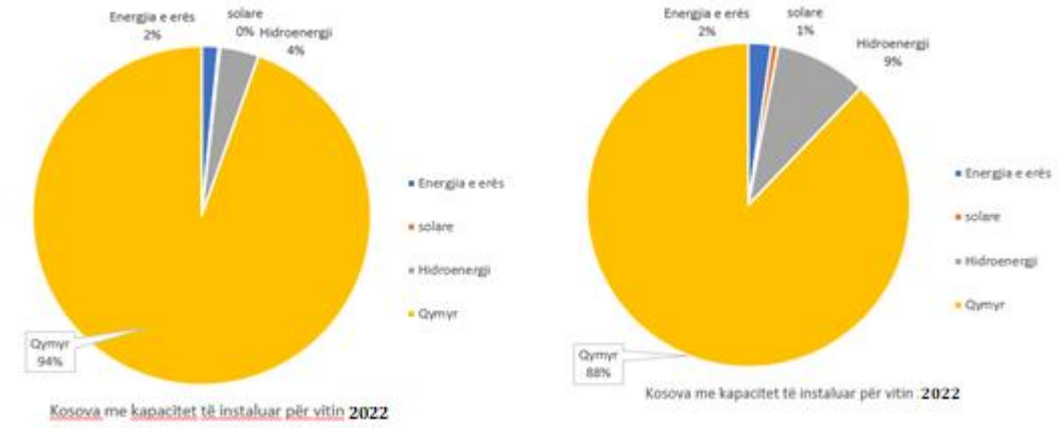

Figure 3 Structure of Kosovo's installed capacity for 2022 (right) and electricity production for 2022 (left) (The Western Balkans Investment Framework (WBIF)- European Commission, 2023)

Above is presented the assessment scheme of the installation capacities for RES in the two years, 2020 and 2022, where a slight increase in electricity generation with renewable energy sources can be seen.

Whereas, according to the IRENA (The International Renewable Energy Agency) report published in 2022, we have the following data from 2012 to 2021 for RES in Kosovo:

Table 1. Total renewable energy over the years in Kosovo (IRENA, 2022)

2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
44	44	44	44	81	121	121	139	137	242	350

Table 2. Share of renewable energy in total electricity capacity (IRENA, 2022)

Yers	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
%	4.6	4.6	4.6	4.6	8.2	8.6	8.6	9.7	9.6	15.8	20.8

Based on the Energy Law, the Energy Strategy, as the main policy document, must be reviewed every three years by the Government and sent to the Assembly for approval. According to the Kosovo authorities, it is expected that, due to environmental and social concerns and the opposition of the local community, the goals for small hydropower plants will be revised and not operationalized, i.e. no new small HPP projects are expected to be accepted into the support scheme. . Targets for solar PV, and possibly wind, are expected to have a more positive outcome. (The Western Balkans Investment Framework (WBIF) - European Commission, 2023)

The Ministry of Economy of Kosovo has announced that the country's energy strategy for the period 2022-2031 will be presented these months, where the government intends to increase the share of renewable sources in electricity consumption to between 25 and 30 percent, which currently it is around 5 percent. Kosovo aims to install 1.4 GW of renewable energy capacity by 2031.

The System, Transmission and Market Operator (KOSTT) plays an important role in the promotion of RES. It is mandated by law to prioritize production from RES, in accordance with the limits specified in the Grid Code. Another additional incentive for RES lies in the legal obligation of the Market Operator to purchase the production of RES with the regulated incentive fee, as defined by ERO. Currently, the incentive tariffs vary according to different RES technologies, as follows:

• For small hydropower plants: 67.3 EUR/mwh (10-year support scheme)
• Wind turbines: 85 EUR/mwh (12-year support scheme)
• Biomass plants: 71.3 EUR/mwh (10-year support scheme)
• Photovoltaic: 136.4 EUR/MWh (12-year support scheme)

As a member of the Energy Community, Kosovo has reached the mandatory target for RES for the year 2020 defined and approved by the Council of Ministers in 2012. For Kosovo, 25% of the participation of RES in gross energy consumption is foreseen, as defined in the National Action Plan. But an even higher target of 29.47% was set in the Administrative Instruction in 2013. The participation of RES in the gross energy consumption in Kosovo for 2015 was 19.7%. Starting from 99.5 MW of RES installed until 2017, this Strategy claims 401 - 470 MW until 2026, depending on the development scenarios. (Ministry of Economic Development, 2017). The project team of the Kosovo Environmental Agenda for the Europeanization of Kosovo, which consists of BIRN Kosova, CEE Bankwatch, ERA Group and TV Mreza, has published an analysis of renewable energy policies in Kosovo by 2021.

The analysis finds that Kosovo has met its overall renewable energy target for 2020, but also points out that very limited progress has been made in meeting its renewable energy targets. That analysis also criticizes Kosovo's plans to rely on small hydropower in its efforts to increase the share of renewable energy in its electricity sector. According to the analysis, these sectors have not managed to produce significant amounts of electricity (only 2.3 percent in 2019). "Despite the revision of the National Action Plan for Renewable Energy in 2018, Kosovo did not manage to build as much solar, wind or small hydropower capacity as originally planned, and as of 2019 had reached a share of only 5.15 percent of renewable electricity – lower than any other country in the Energy Community except Moldova", the analysis states. In December 2018, a new Renewable Energy Directive entered into force in the EU. The Directive contains an overall renewable energy target of 32 percent of gross final energy consumption by 2030. EU member states are required to set out national contributions in order to collectively meet the Union's overall binding target as part of documents called integrated national energy and climate plans (NECPs), and the position paper identifies it as the EU Governance Regulation which determines the requirements for these plans. (The Europeanisation of Kosovo's Environmental Agenda, 2021)

Renewable Energy Sources also contribute to heating, namely to the production of thermal energy. As such, they have become part of the Heating Strategy. Since there is a need to minimize the use of wet lignite and the unsustainable use of wood for heating purposes, the use of solar energy, municipal waste and wood waste is seen as the most promising sources for space heating and sanitary water.

The development policies of the forestry sector drawn up and implemented by the Ministry of Agriculture, Forestry and Rural Development have also given support to the greater use of Renewable Energy Sources, which policies have continued to treat wood as an important source of energy. thermal. For this reason, the Forestry Development Strategy has given due priority to supporting the use of systems and methods that lead to the sustainable use of the forest fund for energy production.

The laws of the energy sector, in particular the Law on Energy, have continuously addressed Renewable Energy Sources in terms of promoting the optimization of their use, including the determination of annual and long-term energy production targets from these sources.

The mission of the Energy Strategy is to create the conditions for a reliable and safe supply of energy, for the growing demand for energy, through the development of production, transmission and distribution capacities, taking into account the diversification of resources, the efficient use of energy, maximum use of renewable energy sources, as well as environmental protection in all activities of the sector.

The Energy Strategy aims to create a developed energy sector, harmless to the environment and health, in support of sustainable economic development and social well-being in Kosovo within a free and competitive energy market

Renewable energy sources (RE) as an important segment of the energy sector, affects the improvement of the security of energy supply, the increase of economic development, the diversification of usable energy sources as well as the reduction of CO2 emissions and the protection of living environment. The use of these resources for energy production constitutes a long-term objective which is also related to compliance with the obligations arising from the Energy Community Treaty and Article 114 point b of the SAA. As a party to this Treaty, Kosovo is obliged to meet the goals of the participation of energy from Renewable Sources in the final gross energy consumption.

Based on the aforementioned current situation, as well as other contributing factors, the main issues and challenges of the RES energy sector in Kosovo that should be addressed in the strategy are:

- Insufficient exploitation of RES potentials.

- Small share of thermal energy.
- Lack of infrastructure investments for natural gas.
- Non-competitive electricity market. (Ministry of Economic Development, 2017).

4. Objectives of Renewable Energy Sources in Kosovo

A total of 15 utility-scale renewable energy production projects, either under development or under construction, have been identified. The total capacity of these projects is 1,062.1 MW. If projects with a capacity of less than 10 MW are added, then the total renewable generation capacity under development or construction is 1 336.5 MW in 61 projects in total.

To put the identified RE projects into perspective, we note that the World Bank's 2020 study estimated Kosovo's total solar PV technical potential to be 3,600 MW. The technical potential for wind energy was estimated at 1 200 MW24. Regulatory provisions limit eligibility to solar PV projects with an installed capacity of up to 3 MW. (The Western Balkans Investment Framework (WBIF) - European Commission, 2023).

4.1 Hydropotentials

Kosova ka potenciale modeste të hidro kapaciteteve për gjenerimin e energjisë elektrike, duke pasur parasysh se lumenjtë në vendin tonë janë kryesisht me prurje të vogla uji dhe rrjedha të shkurta, që i redukton opsionet gjeografike të ndërtimit të akumulimeve të ujit për hidrocentrale. (Akademia e shkencave dhe arteve të Kosovës , 2020).

Table 3 Total renewable energy from hydropower (IRENA, 2022)

Years	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
MW	43	43	43	43	78	80	80	95	95	95	95

Three HCVs operate in Kosovo as hydropower plants connected to the distribution network: HC Dikanci, HC Radavci and HC Burimi. While HC Lumbardhi is connected to the transmission network. These HCs were rehabilitated during the years 2009-2010 and increased their production, after they were granted a concession by their owner, the Kosovo Electric Power Corporation.

HCV Lumbardhi was rehabilitated and commissioned in 2005 by a company, which leased it for a period of 20+20 years. The installed capacity of this HC is 8.08 MW.

HCV Dikanci was leased and operationalized in 2010, while its installed capacity increased to 1 MW during its repair. HCV Radavci was rehabilitated in 2010 by the company that took it over with a concession. The installed capacity of this HCV has also increased to 0.9 MW.

HCV Source has been granted a concession and its capacity has increased from 0.56 MW to 0.86 MW. HC Ujmani also contributes to the electricity system of Kosovo with an installed capacity of 35 MW and an annual production of about 88-90 GWh. This HC is owned by the Ibër-Lepenc Hydrosystem. (Ministry of Economic Development, 2017)

Other studies also done by various international institutions have identified 18-20 locations for smaller hydropower plants with a total capacity of about 70 MW, which can produce about 300 GWh per year in average hydrological conditions. Some of these small HCs have already been built with investments from the private sector and are in operation. For a period of time, the Government has supported (subsidized) these capacities with incentive fees. But during the granting of construction permits and the licensing of these 13 capacities by the local authorities, very little attention was paid to the protection of the environment, so that the construction of these hydropower plants caused significant damage to the environment due to the diversion of the flow of ravines and rivers. and reducing the amount of free water for use by local residents, with serious consequences for agriculture and the flora of construction sites. These constructions are often accompanied by objections and protests from local residents, but without any effect on the authorities' awareness of environmental issues and irreparable consequences. Therefore, in the future, this issue must be clearly addressed and must be regulated by relevant laws so that environmental protection is a priority during the granting of permits and licensing of new capacities. (Academy of Sciences and Arts of Kosovo, 2020).

4.2 Wind potentials

Although wind resource maps are not yet complete for the geographical extent of Kosovo, private investors have done some monitoring of locations with relevant wind values.

Table 4 Total renewable energy from wind (IRENA, 2022)

2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
1 MW	1 MW	1 MW	1 MW	1 MW	34 MW	34 MW	34 MW	32 MW	137 MW

The International Company "Mercados Energy" for the needs of the World Bank, based on the assessment of the availability of resources, has calculated that the potential for wind energy production in Kosovo is about 2000 GWh per year, which is equal to 1000 MW of installed capacity. with a capacity factor of 25%. This is also a very optimistic assessment and quite controversial in public opinion.

A study funded by the Swiss organization entitled "Promotion of renewable energy and energy saving" in international cooperation, which was carried out by the consultants of "NEC Technologies", has concluded that the wind resources in our country are much more modest and that there are very few areas where the wind speed exceeds 6 m/s, which is the minimum necessary for commercial potential in the region.

The report also concluded that the winds in Kosovo mostly reach the average level. More rigorous identification of wind speed and duration may indicate areas where winds are strongest in more complex terrain, but exploitation of those resources may be hampered by problems of space and access. Furthermore, Kosovo's small electric power system most likely cannot absorb more than a quarter of the total technical wind potential given the requirements for reliable operation of the power system. (Academy of Sciences and Arts of Kosovo, 2020)

In 2009, the first wind energy capacities of 1.35 MW were installed on the Golesh hill near Pristina, but its operation was then stopped.

In the following period, other requests from private companies for investments in wind energy capacities in Artana, Dardana, Shtime, Rahovec (Zatriq), Suharekë (Budakovë) and Drenas were submitted to ERO. Currently, in 2022, we have functional wind parks, that is, two capacities that are worth mentioning, that of Shala e Bajgora with 27 turbines and a total capacity of 105 megawatt-hours and Kitka in the Gjilan region with a capacity of 36 MW.

After numerous analyzes and measurements, it is estimated that in addition to the two wind energy capacities, wind energy parks can also be built in Çyçavica, in Zatriq, in Budakovë and in Kozhica, these places identified for the possibility of building new energy parks of the wind. It is estimated that so far in all these places identified for the possibility of building wind turbines, around 600MW of electricity from the wind can be achieved. (Ministry of Economic Development, 2017).

4.3 Photovoltaic capacities

Kosovo has solar photovoltaic potential with about 160 GW h/year on average, which means about 77 MW of installed capacity, with a utilization factor of 22-25%. The largest amount of global solar radiation energy in Kosovo reaches in the period March - September, with orientation on the surface with a slope of 30o towards the south. However, in the period October - February, the largest amount of energy of the global solar radiation falls on the surface with a slope of 60o, also oriented towards the south.

Table 5. Total energy generated by solar energy (IRENA, 2022)

2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
			0 MW	2 MW	7 MW	7 MW	10 MW	10 MW	10 MW	20 MW

Solar collectors for heating sanitary water have been installed in a number of facilities in the University Clinical Center of Kosovo and in the Student Center in Pristina, with funding from the state budget (during the years 2008-2009), and in three other public facilities - part of the project for implementation of energy efficiency measures, with funding from the European Commission (during 2010).

During 2015, in the vicinity of Klina, a photovoltaic energy capacity of 102 kV was installed for commercial purposes, while HCV Brodi II with a capacity of 3.89 MW was commissioned.

At the beginning of 2016, the construction of two new HCVs was completed: HCV Lumbardhi II with a capacity of (9.2+8.4) MW and HCV Albaniku III with a capacity of 4.3

MW.

Meanwhile, as a result of the interest of private investors, for HCs, ERO has issued the final authorization permits for 76 MW; preliminary authorization permits for 89.54 MW, while the requests for authorization for 513.2 MW of new capacities are also in the process of review. (Ministry of Economic Development, 2017).

4.4 Biogas and biomass

In Kosovo, biogas based on livestock manure is distributed in many parts of the country, but in small quantities and has little potential to be converted into gas for the movement of turbines of electricity generators. On the other hand, most of the raw material for biomass comes from wood and a small amount from agricultural waste which can be converted into biogas. Kosovo's wealth of wood mass is considerable, but the use of wood for the production of electricity would have very high costs and would cause irreparable degradation of forest regions. Projects financed by various international organizations have predicted that the participation of biogas for electricity production will be significant at around 13%. (Academy of Sciences and Arts of Kosovo, 2020).

5. Conclusions

From the paper presented with the collected data, we see how the objectives of the Paris Agreement are almost globally attempted to be met. Even the EU with its strategies is at the forefront of these efforts to address the root causes of climate change as well as the prevention of the emission of harmful gases, thus setting the goals set for these decades through the above-mentioned strategies. The EU has achieved with its actions to implement the designed objectives for which, as presented in this paper, it has committed itself for 2020, and it is also expected that by 2030, according to the Paris Agreement, gases in the atmosphere will be reduced by at least 40 %. What is suggested by the research is that the EU should further strengthen its capacity for climate diplomacy and strengthen its geopolitical relations, the same for Kosovo to exploit the RES potential that the latter contains.

Meanwhile, it is worth noting that in accordance with its commitments, the EU and Kosovo have reached the objectives set by the European Commission for the year 2020, for the reduction of GHG emissions and renewable energy.

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