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MINISTRIA E EKONOMISË
MINISTARSTVO EKONOMIJE
MINISTRY OF ECONOMY

5th RENEWABLE ENERGY PROGRESS REPORT OF THE REPUBLIC OF KOSOVO 2020-2021

According to the Renewable Energy Directive 2009/28/EC as adapted by the Ministerial Council Decision 2012/04/MC-EnC of the Energy Community

Prishtina
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1. ACRONYMS

DSO- Distribution System Operator
EC- European Commission
EnC- Energy Community
EU- European Union
ERO- Energy Regulatory Office
FIT- Feed-in Tariff
GHG- Greenhouse gas
GoK- Government of Kosovo
ha-hectare
HPP- Hydro Power Plant
IPCC- Intergovernmental Panel on Climate Change
KEDS- Kosovo Electricity Distribution Company
KOSTT- Kosovo Transmission System and Market Operator
kW- kilowatt
kWh- kilowatt hours
MAFRD- Ministry of Agriculture, Forestry and Rural Development MAFRD
ME- Ministry of Economy
MW- Megawatt
MWh- Megawatt hour
PPA- Power Purchase Agreement
RKS- Republic of Kosovo
REF- Renewable Energy Fund
RES- Renewable Energy Source
TSO -Transmission System Operator

2. INTRODUCTION

The Government of Kosovo has continued its efforts to diversify the energy mix, but is yet to unleash the full potential of renewable energy sources. Energy institutions have focused on following best practices to establish a green energy sector that is environmentally friendly. Nonetheless, the COVID-19 global pandemic had an effect on renewable policies, that was especially felt during 2020 and 2021.

Lockdowns and other measures for protection of public health in 2020 resulted in a decrease of industrial output as well as other economic activities, including the renewables sector. Low electricity prices in European markets temporarily offset the pressure of increasing national energy capacities. In 2020, the Energy Regulator's Office discontinued the support scheme for feed in tariffs and the "Kosova e Re" project, the objective of which was to build a new coal-based thermal power plant, was cancelled. In 2021, the trend in electricity markets was reversed, with higher-than-expected electricity prices making Kosovo more vulnerable to exports and signaling the need for new capacities.

Kosovo's energy sector continues to be reliant on local generation from fossil fuels, with limited generation from renewable energy sources. Biomass continues to dominate renewables due to its use for heating, especially for households; however, during the reporting period new renewable capacities have come online, increasing the overall share of renewables in the national generation mix.

The 5th Renewable Energy Progress Report outlines the achievements and obstacles encountered throughout the period 2020-2021 in the renewables energy sector including, transportation, biofuels, and others.

3. RES PROGRESS REPORT ACCORDING TO ENERGY COMMUNITY MODEL REPORT

The information included in this chapter is structured according to the Model Report of the Energy Community, and questions and tables provided in the Model Report as per Article 22 of the Directive 2009/28/EC.

3.1. Sectoral and overall shares and actual consumption of energy from renewable sources in the preceding 2 years (Article 22 (1) a of Directive 2009/28/EC).

Article 22 paragraph 1 of the Directive 2009/28/EC requires each member state to provide the data pertaining to sectoral and overall shares from renewables, as well as measures taken or planned at national level to promote the growth of energy from renewable sources. The data for years 2020 and 2021 are outlined in Table 1 and Table 2, as follows:

Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources

	2020 Year n-1	**2021** Year n-2[1]
RES-H&C (%)	**55.89%**	**53.39%**
RES-E (%)	**5.26%**	**5.43%**
RES-T (%)	**0%**	**0%**
Overall RES share (%)	**24.40%**	**22.36%**[2]
Of which from cooperation mechanism (%)		
Surplus for cooperation mechanism (%)		

Table 2: Calculation table for the renewable energy contribution of each sector to final energy consumption (ktoe)

	2020 *Year n-1*	***2021*** *Year n-2*[3]
(A) Gross final consumption of RES for heating and cooling	372.0	367.8
(B) Gross final consumption of electricity from RES	28.9	35.3
(C) Gross final consumption of energy from RES in transport		
(D) Gross total RES consumption	401.0	403.1
(E) Transfer of RES to other Contracting Parties or Member States	0	0
(F) Transfer of RES from other Contracting Parties and 3rd countries		
(G) RES consumption adjusted for target (D)-(E)+(F)	401.0	403.1

[1] SHARES tools results 2020 and 2021 at https://ec.europa.eu/eurostat/web/energy/data/shares

[2] The difference in the Overall RES Share in 2021 compared to 2020, is mainly due to the increase of electricity consumption in 2021 which is approximately 9% higher compared to 2020.

[3] Source of data: Eurostat, Shares Summary Results 2020 and 2021 at https://ec.europa.eu/eurostat/web/energy/data/shares

Table 3: Total actual contribution (installed capacity, gross electricity generation) from each renewable energy technology in Republic of Kosovo to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity

	2020[4] Year n-1		**2021**[5] Year n-2	
	MW	**GWh**	**MW**	**GWh**
Hydro:				
non pumped				
<1MW	1.26	2.554	1.26	2.890
1MW–10 MW	63.64	146.071	80	184.572
>10MW	35	63.335	35	109.435
pumped				
mixed				
Geothermal				
Solar:				
photovoltaic	10.1	13.574	10.1	13.155
concentrated solar power				
Prosumer (PV)[6]	0.5923	0.2099	1.2415	0.6065
RES in Agricultural Farms	See 2021		4.1[7]	
Wind:	33.75	92.087	137.16	126.842
onshore	33.75	92.087	137.16	126.842
offshore				
Biomass:				
solid biomass			1.2	0.047
biogas				
bioliquids				
TOTAL	144.34	317.8	270.06	437.5
of which in CHP			1.2	0.047[8]

The ambition of the Government of Kosovo to diversify its energy mix has been proven with a series of initiatives promoting both small- and large-scale renewable projects and energy efficiency measures.

In 2012, via decision of Decision Ministerial Council of Energy Community No. D/2012/04/MC –EnC, specific mandatory national overall targets were foreseen for contracting parties, with the Republic of Kosovo target set at 25% by 2020. Although Kosovo has achieved the RES targets for 2020 as required by the Energy Community, the biggest share is covered through biomass, used in Kosovo mainly for heating purposes, with a smaller share of wind and solar in the overall energy mix.

In 2020, the energy sector in Kosovo was affected by the Covid-19 lockdown measures and subsequent reduction in economic and social activities. The measures led to significant stagnation in activities relating to renewable energy, resulting in a minimal number of new investors. As a result, only three (3) projects - “Dilli Energy SH.P.K (0.31 MW)”, “Hydro Line SH.P.K (3.55 MW)”, and “Eko Energy SH.P.K (1 MW)” - commenced commercial operation in 2020, with combined installed power of 4.86 MW.

[4] ERO Annual Report 2020 Table 6.7 & 6.8 pg. 80&81
[5] ERO Annual Report 2021 Table 6.7 & 6.8 pg. 81&82
[6] Direct Communication with KESCO J.S.C. January 19, 2023
[7] Direct communication with MAFRD 22 December 2022: Implementation program for Rural Development was for 2 years (2020-2021)
[8] ERO Annual Report 2021 Table 6.8 pg.82

As the Government lifted the measures imposed in 2020 many projects that were in the pipeline commenced effective operation in 2021. However, in 2021 Europe was harshly affected by increased electricity prices resulting from a combination of global economic, and political factors. Initially, the energy sector in Kosovo unaffected by the prices/supply crisis as a result of low demand through the summer and sufficient local generation capacities. However, the situation worsened as the cold winter resulted in the highest peak demand on record, driven by the extensive use of electricity for heating. Consumption for the household category was higher by 12.72% compared to 2020, with increases of 18.98% for commercial and 5.80% for industrial[9].

Significant progress was made in the renewable energy sector in 2021, with considerable new generation capacities of wind, hydro and biomass coming online. In total, 123.4 MW of new RES generation came online, mainly from wind, followed by hydro and biomass. Further, the capacity of renewables increased compared to 2020 by 46.1% at transmission level (additional 103.41 MW of wind energy) and 22.3% at distribution level (26.3 MW of hydro-energy[10]). In addition, the first biomass-based cogeneration plant commenced operations in Gjakova Municipality, utilizing biodegradable waste such as vine pruning's and wood scraps.

Conversely, the overall RES share in 2021 slightly decreased. It is important to recognize that this decrease was due to the extraordinary increase of electricity consumption recorded for 2021 - the highest consumption ever registered in the country - as well as a significant increase in fuel oil imports due to the COVID pandemic, as reported by the Statistical Agency of Kosovo.

The share of RES is expected to continue to rise in upcoming years, as the Government has pledged to cover at least 35% of electricity consumption by RES by 2031, achieve net-zero emissions by 2050 and move towards the establishment of a green and healthy environment for citizens.

Considerable progress has been made with self-consumption generators (prosumers). During 2020 there were a total 33 Final Authorization decisions issued by ERO, with total installed capacity of 0.978 kW[11], whereas during 2021 a total of 50 Final Authorization decisions were issued, with an installed capacity of 1,919.8 kW[12]. It should be noted that the data reported from KESCO on prosumers in Table 3 differs from ERO's reported numbers. This is because KESCO records the installed capacity and production from actual prosumers who have signed a Power Purchase Agreement and are registered in KESCO's system, whereas ERO records applications that have received Final Authorization from ERO on prosumer status but have not finalized the PPA procedures and registered in KESCO's system.

Across 2020 and 2021, a total of seven licenses for the generation of energy from renewable sources were issued from ERO, three for hydro-power in 2020 (via decisions V_1303_2020, V_1304_2020 and V_1267_ 2020), and four in 2021, including three for wind (via decisions V_1432_2021, V_1457_2021 and V_1466_2021) and one for biomass (via decision V_1450_2021).

No transfers of RES between Kosovo and other Energy Community Contracting Parties were marked, nor with EU member states.

[9] ERO Annual Report 2021 pg. 39 and 105
[10] ERO Annual Report 2021 pg.81
[11] ERO Annual Report 2020 pg.24
[12] ERO Annual Report 2021 pg.34

Table 4: Total actual contribution (final energy consumption) from each renewable energy technology in Republic of Kosovo to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in heating and cooling (ktoe)

	2020 Year n-1[13]	**2021** Year n-2
Geothermal (excluding low temperature geothermal heat in heat pump applications)		
Solar	0.46	0.49[14]
Biomass:	372.0	367.8
Renewable energy from heat pumps: - of which aerothermal - of which geothermal - of which hydrothermal		
TOTAL	372.46	368.29
Of which DH		
Of which biomass in households	364.03	333.23[15]

Table 5: Total actual contribution from each renewable energy technology in Republic of Kosovo to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in the transport sector (ktoe)

	2020 Year n-1	**2021** Year n-2
Bioethanol/ bio-ETBE		
Of which Biofuels Article 21.2		
Of which imported		
Biodiesel		
Of which Biofuels Article 21.2		
Of which imported		
Hydrogen from renewables		
Renewable electricity		
Of which road transport		
Of which non-road transport		
Others (as biogas, vegetable oils, etc.) – please specify		
Of which Biofuels Article 21.2		
TOTAL		

For the reporting period 2020-2021, no legal framework was in place for the regulation of the biofuels sector in Kosovo, therefore the production and imports of biofuels could not be verified. However, it should be noted that some progress has been made as provisions related to the sustainability of biofuels were partially transposed through the Law nr.08/L-018 on Trade in Petroleum Products and Renewable Fuels, adopted in 2022. Moreover, the Government of Kosovo is in the process of drafting the Law on Renewable Energy, which includes dispositions related to biofuels. The Law is pending for approval in 2023.

[13] ASK Data 2020 at https://askdata.rks-gov.net/pxweb/sq/ASKdata/ASKdata__Energy__Yearly%20indicator/tab6.px/

[14] Statistical Agency of Kosovo, Energy Balance Report year 2021, pg.4

[15] Statistical Agency of Kosovo, Energy Balance Report year 2021 pg.27

4. Measures taken in the preceding 2 years and/or planned at national level to promote the growth of energy from renewable sources taking into account the indicative trajectory for achieving the national RES targets as outlined in your National Renewable Energy Action Plan. (Article 22(1)a) of Directive 2009/28/EC))

Name and reference of the measure	Type of measure*	Expected result**	Targeted group and or activity***	Existing or planned****	Start and end dates of the measure
1. Law on Energy nr.05/L-081	Regulatory	Promotion, optimization and use, including determination of annual and long-term goals of energy generation from such resources	Investors, end users, public administration	Existing	13 July 2016- continue
2. Law on Electricity nr.05/L-085	Regulatory	Creating Certificate of Origin for RE and cogeneration. Power certified to originate from RE is entitled to priority dispatch under the terms stated in the Grid Code and Market Rules. TSO and DSO are obliged to provide priority to electricity generated from RE power plants and co-generation	Investors, end users, public administration	Existing	21 July 2016- continue
3. Law on Energy Regulatory nr.05/L-084, article 43	Regulatory	Establishes specific procedures for the authorization of new generating capacities.	Investors, end users, public administration	Existing	14 July 2016- continue
4. Rule on Authorization Procedure for Construction of New Generation Capacities	Regulatory	Describes the procedure for authorization of new generating capacities. The authorization is a right issued by ERO that enables applicants "to commence with construction of generation capacities (....) within specified period of time. The same rule foresees disposition for Prosumers including rights and responsibilities. The procedure was amended to include New Systems for the Transmission and Distribution of Gas, including Interconnectors, Direct Pipelines for Thermal Energy and Direct Electricity Lines and Direct Pipelines for the Transmission of Natural Gas**.**	Investors, planners,	Existing	Reporting period covers the version of 31 March 2017. The rule was amended and approved in November 2022

5.Rule on support scheme	Regulatory	The Rule on Support Scheme aims at supporting the generation of electricity from renewable energy sources, in order to meet the set out Indicative Targets of Renewable Energy Sources.	Investors, planners	Existing	March 2017- continue
6. Decision on Suspension of the Feed-in Tariffs	Regulatory	Decision on suspending the Feed in Tariff Support Scheme from Energy Regulatory Office.	Investors, planners	Existing	December 2020
7.Methodology on calculation of the reference price for energy generated from RES	Regulatory	The methodology sets the criteria for determining the reference price for energy generated from renewable energy sources (RES). The applicable reference price will be applied by the Market Operator for the energy sold to the Suppliers. It will also apply to the sale and purchase of energy from RES according to the regulated framework .	Investors, planners	Existing	December 2020
9.Law on energy performance	Regulatory	Increase of RES use in new buildings and building undergoing major renovation	Investor, Installers	Existing	For the reporting period 2020/2021 December 2016- continue In 2021, the Concept Document was approved for drafting a new Energy Legislation.
10.Regulation on Minimum energy performance in buildings	Regulatory	Increase of RES use in new buildings and building undergoing major renovation	Investor, Installers	Existing	2018-countinue
11.Agriculture and Rural Development Program Grant support scheme for farmers	Financial support	Sustainability of the sector and work jointly to increase production, establish new processing lines and upgrade farm machineries and equipment, as well as work conditions at the farm level	Farmers	Existing	2014-continue

Women Entrepreneurs	Financial support	Support women in making necessary investments in energy efficiency measures and modern equipment that will help them grow their business and use green energy	Women Energy Entrepreneurs	Existing	2020-countinue
Green Economy Financing Facility (Local Banks)	Financial support	Increase of RES capacity with private consumers, SME companies	SME companies, households	Existing	2018-countinue
Formation of clusters for increased use of biomass (pellets) and solar	Financial support	Formation of clusters dealing with all aspects of producing pellets and deployment of project with solar energy	Producers of pellets, wood equipment producers, installers of solar panel and PV system	Private Company	2014-continue
MFK	Financial Support and Soft	Support women in energy sector towards career advancement on energy efficiency and renewable energy	Women professionals from a broad range of profiles	Existing	2016-continue
Customs exemption for components and equipment for RES use	Financial	Increased cost-benefit of RES projects, attracting investment	Investors	Existing	2017-countinue
VAT exemptions	Financial	Increased cost-benefit of RES projects, attracting investment	Investors	Existing	2017-countinue
Guideline for Prosumers	Soft	The guideline explains the conditions and criteria for obtaining the status of prosumers	All customers connected in low distribution network	Existing	2021-continue

4.1 Please describe the progress made in evaluating and improving administrative procedures to remove regulatory and non-regulatory barriers to the development of renewable energy. (Article 22(1)e) of Directive 2009/28/EC).

In 2016, Kosovo's energy legal framework was reviewed to align it with EU regulations through the approval of a package of laws, namely, the Law on Energy no. 05/L-081 and Law on Energy Regulator no. 05/L-084 and Law on Electricity no. 05/L-085. These laws established the legal basis for the promotion of the sustainable use of the country's RES potential, in a manner that ensures security of supply and environmental protection.

Following the requirements deriving from the new primary legislation, the Ministry of Economy updated the administrative instruction no.05/2017 on Renewable Energy Source Targets and administrative instruction 06/2017 on Utilization and Support of Energy Generated from Renewable Sources. Similarly, ERO updated the Rule on Authorization of New Generating Capacities determining the procedures and criteria for issuing authorization for the construction of new generating capacities. At the same time, the legislative basis was established for the support mechanisms for new generating capacities from renewables. The Rule on Support Scheme foresaw encouragement of investments in RES through:

- Feed-in-Tariff Support Scheme awarded on a 'first come, first serve' basis.
- Regulated framework: enabling potential investors to conclude a PPA with the market operator and sell the electricity based on a reference price set by ERO.
- Market-based conditions: obtain the necessary authorizations and permits required by law pertaining to the environmental, technical, and social conditions – and after they receive their authorizations, sell electricity directly to the market.

In November 2019, ERO, based on Board Decision V_1204_2019, awarded additional capacities of 20 MW for solar panels/photovoltaic and reduced the price per MWh from €136.4/MWh to €85.5/MWh. However, this decision was found to be contrary to the Law on State Aid as stipulated in the decision 17/2020 of November 24th 2020[16], as well as Energy Community guidelines that require countries to transition from administratively awarded support scheme to competitive ones.

In December 2020, ERO decided to terminate the Feed-in-Tariff support scheme for the development of new RES capacities. At the same time, it approved the Methodology for Calculating the Reference Price for Energy Generated from RES. This will be utilized by potential investors opting to develop new generating capacities through the regulated framework.

Progress was made in 2021 towards the development of competitive support mechanisms, including extensive preparations for the launch of the first solar auction. Efforts were made, and are ongoing, to reduce systemic barriers to private sector engagement, market entry and investment, through the streamlining of administrative processes within key energy institutions.

A key success was the granting of regulatory approval for the Rule on Authorization Procedure in 2022. The new Rule helps to streamline and simplify the auction process for construction of renewable energy capabilities. Also, the Rule expands ERO's approval authority over different types of energy projects, including new systems for transmitting and distributing gas;

[16] Decision of State Aid Commission no.17/2020 dt.24.11.2020

electricity; interconnector lines; and direct pipelines for thermal energy and natural gas transmission.

The Ministry of Economy commenced work on a RES Portal, a "one-stop shop" approach that aims to attract investors to Kosovo's renewable energy sector. The Portal will enable RES developers to easily access information on opportunities as well as helpful reference material relating to the permitting process. The Portal will include the A-Z Guide, which is the ultimate manual for any RES developer and covers solar, wind and hydro. In parallel, the Ministry of Environment, Spatial Planning and Infrastructure developed a new dataset for Kosovo's Geoportal (Government portal offering access to critical infrastructure and other data publicly) that focuses on solar radiation and wind measurements and which will be part of RES Portal. The dataset identifies the solar radiation and wind measurements across Kosovo and can be utilized as such for development of solar and wind farms in the future. This given the geoportal, allows any user to cross check this data with data on public or private land , roads, transmission lines and others.

In July 2021, the DSO introduced a Guideline for Prosumers, as well as a dedicated space within its webpage for obtaining Prosumer status[17]. The Guideline for Prosumers provides information on documentation and qualifying criteria and is intended to streamline the process of obtaining prosumer status. In addition, the Guideline offers information on which institutions and agencies are responsible for the issuance of specific documents and all other required steps.

4.2 Please describe the measures in ensuring the transmission and distribution of electricity produced from renewable energy sources and in improving the framework or rules for bearing and sharing of costs related to grid connections and grid reinforcements. (Article 22(1)f) of Directive 2009/28/EC).

Law no.:05/L-085 on Electricity, Article 16, paragraph 1.44 and Article 28 paragraph 1.8 obliges TSO and DSO to give dispatching priority to generating installations using RES based on transparent and non-discriminatory criteria.

TSO Network Code Article 3 paragraph 1, defines the criteria for connection points at TSO level pertaining to the generating capacities of solar and wind parks. The required technical information from the TSO (KOSTT) or DSO (KEDS) should be obtained from the relevant institution depending on the connection level as follows[18]:

- Up to 5 MW new generating capacities apply by default to the DSO.
- Site-specific generation capacities below or equal to 10 MW may apply to the DSO or TSO (depending on grid availability).
- Above 10 MW new generating capacities apply by default to the TSO.

For the reporting period 2020 and 2021, the TSO applied the measures as reported in the previous reporting years in accordance with the procedures set in the following documents:

1. Transmission Connection Charging Methodology
2. Procedures for Connection to the Transmission Network
3. Procedure for RES Generation Module Energization into Transmission Network

[17] KEDS Energy website: https://www.keds-energy.com/shq/sherbimet/prosumatoret/
[18] Direct communication with TSO (KOSTT), May 2022

According to the above procedures, "Transmission Connection Charging Methodology" and "Procedures for Connection to the Transmission network", the time from submission of the Connection Application until signing of the Transmission Connection Agreement is as follows:

- Day 0: The applicant submits the Connection Application to the transmission network operator together with proof of payment via mail or directly to the Archive Office of KOSTT. (If the application is submitted by mail, the counting of days begins when KOSTT accepts the application.)
- Days 1-30: KOSTT reviews and decides if the connection planned by the Connection Application is (or is not) technically and economically possible and in accordance with the provisions of the Grid Code, meets the conditions required by KOSTT and does not represent a problem for the safe operation of the transmission system.
- Days 31-90: KOSTT prepares a Connection Offer which it sends to the Applicant together with the draft Transmission Network Connection Agreement.
- Days 91-120: The Applicant reviews the Connection Offer for the transmission network submitted by KOSTT, which can then be signed.
- Days 121-150: The Applicant and KOSTT review/negotiate and sign the Transmission Network Connection Agreement.[19]

In December 2020, ERO approved the Metering Code for Distribution System Operator and Distribution Code in accordance to Law on Electricity 05/L-085. The Distribution Code sets the minimum rules for design and operation of the distribution system, including obligations for maintaining an appropriate level of system security and reserve capacity, the technical rules establishing the minimum technical design and operational criteria and the procedures applicable for system operations in contingency situations. The Metering Code determines characteristics of metering equipment at the metering point of network users, properties of the measuring equipment or standards and technical standard and solutions for installation of metering systems of network users. For the DSO, for 2020-2021, the applicable charges for new generating capacities were determined in accordance with service connection procedures and prices approved by ERO[20]. However, the Connection Charging Methodology for the DSO was approved by ERO in 2022. In accordance with the methodology, the procedure from submission of application up to signing the Distribution Connection Agreement is as follows:

- Phase 1 (Application): Applicant submits the application for connection to DSO along with the required documentation.
- Phase 2 (Connection Offer): Based on the application submitted, the DSO will prepare a connection offer within 30 calendar days (of the day of submission of the application). If additional information is required, the DSO will inform the applicant within 10 days of submission of the application. The deadline for connection offer can be extended for an additional 30 calendar days for more complex connections. In such an event, the DSO is obliged to inform the applicant in writing.
- Phase 3 (Acceptance of Connection Offer of DSO): If the applicant wishes to accept the connection offer, it is obliged to accept that offer in accordance with all terms as stipulated in methodology. After accepting the offer, the applicant will sign a Construction Agreement and make payment in accordance with the Connection Offer of the DSO within 30 days of submission of the Connection Offer. At this phase, the draft Connection Agreement will be attached to Connection Offer.
- Phase 4 (Construction Works): At this phase, the applicant may choose the DSO or another licensed contractor to perform the necessary works for the construction of the electrical network for connection.

[19] KOSTT Procedure for connection in transmission network pg.8-9, February 2018, https://kostt.com/Content/ViewFiles/TransmissionAndConnection/Procedura_per_Kycje_ne_Rrjetin_e_Transmetimit_2018.pdf
[20] Service connection and procedures D_03_2005: https://www.keds-energy.com/Uploads/Data/Docs/Metodologjiaetaksesperkycje_perpublikim_d9Tk9Xx2Vy.pdf

- Phase 5 (Technical Acceptance): After completion of the construction works for implementation of electrical network for connection, the applicant will issue a request to the DSO for technical acceptance. Within 10 working days, the DSO will organize the technical team for inspection in the field and issue a positive or negative report based on findings. If positive, the DSO must immediately approve the connection and provide a copy of the technical acceptance to the Applicant.
- Phase 6 (Connection Agreement): After the construction works have been completed and technically accepted by DSO, the Connection Agreement can be signed. The Connection Agreement is considered closed on the day it is submitted (signed) to the DSO.
- Phase 7 (Connection/Energizing): After signing the connection agreement, the DSO will implement the connection/energizing the assets within 5 days from commissioning.

5. Please describe the support schemes and other measures currently in place that are applied to promote energy from renewable sources and report on any developments in the measures used with respect to those set out in your National Renewable Energy Action Plan. (Article 22(1)b) of Directive 2009/28/EC).

In December 2020, ERO terminated the feed-in-tariff support scheme for new generating capacities. However, potential investors may choose to utilize the Regulated Framework, as stipulated in the Rule for Support Scheme. The regulated framework offers potential investors the following:

- Sell their electricity output to the Market Operator through a PPA. The PPA shall have a minimum duration of one year and may last up to the validity period of the RES Operators generation license, issued by ERO. However, if no license is required, as is the case with generating capacities below 5 MW, the duration of the PPA shall be limited to a maximum of 15 years.
- The reference price will be set annually in accordance with the methodology determined by ERO nr.01/2020 of December 2020 The applicable reference price for 2021 was €65.18 per MWh.
- Be liable for all of their imbalance costs, excluding RES generating facilities with an installed capacity lower than 500 kW.
- Priority in examining the application for connection to the relevant system.
- Be entitled to priority dispatch.

The Rule on Support Scheme determines the support mechanisms for RES self-consumption generators (prosumers). The Rule sets the procedures and criteria for obtaining the status of prosumers and determines the following:

- The status of prosumer may be obtained by any customer connected to the low distribution network (0.4 kW) who installs a small solar PV system (up to 100 kW (≤100 kW)).
- PPA with supplier for 12 years.
- Net-metering support scheme, enabling prosumers to inject excess electricity into the grid, with that electricity metered and credited in energy (kWh) within the same billing period. When the prosumer's electricity generation is lower than their demand, electricity is received from the distribution grid and charged similarly as other regular customers.

An additional support scheme to award grants for RES implemented in agricultural farms was introduced in 2014 through the annual Rural Development Program of the Ministry of Agriculture, Forestry and Rural Development (MAFRD). After successful implementation of RES, farmers are reimbursed 50-60% of the total investment costs. Between 2014 and 2021,

1,218 agricultural farms installed RES (mainly solar PV) with a total estimated capacity of 4.19 MW[21]. All the electricity produced is utilized by the farms.

Table 6: Support Scheme for Renewable Energy

RES support schemes year n (e.g. 2020)			**Per unit support**	**Total (M€)***
[(sub) category of specific technology or fuel]				
Instrument (provide data as relevant)	Obligation/quota (%)			
	Penalty/Buy out option/ Buy out price (€/unit)			
	Average certificate price			
	Tax exemption/refund			
	Investment subsidies (capital grants or loans) (€/unit)		50-60% grant on investment in small RES in agricultural farms € 1,080/kW (estimated	M€ 0.548 [22] (2020 -2021)
	Production incentives			
		Feed-in tariff [23]	Hydro € 67.47/MWh Solar €136.40/MWh Wind € 85/MWh, Biomass €71.30/ MWh	2020 - 8.4 M€ 2021-10.4 M€ 2020- 1.8 M€ 2021- 1.8 M€ 2020- 7.9 M€ 2021- 10.4 M€ 2020-0 M€ 2021-0 M€
		Tendering		
Total annual estimated support in the electricity sector				2020- 18.2 M€ 2021- 22.7 M€
Total annual estimated support in the heating sector				
Total annual estimated support in the transport sector				

5.1 Please provide the information on how supported electricity is allocated to final customers for purposes of Article 3 (6) of Directive 2003/54/EC. (Article 22(1)b) of Directive 2009/28/EC)).

The Law on Electricity, Article 8 paragraph 7, 8 and 9 define the criteria relating to compensation and payments for energy generated from RES. The Law determines that ERO shall draft the Methodology of tariffs to be paid by suppliers for electricity generated from renewable energy sources. This Methodology shall include provisions for compensation of suppliers for the additional cost of purchasing electricity generated from renewable energy sources.

[21] Direct communication with Ministry of Agriculture, Forestry and Rural Development, 20 December 2022
[22] Direct communication with Ministry of Agriculture, Forestry and Rural Development, 20 December 2022
[23] Total cost of financial support "M€" includes the inflation rate for each respective year

In view of this, in April 2017, ERO approved the Rule on Support Scheme. Article 13 of the Rule on Support Scheme defines the criteria for financing the RES Support Scheme. The costs incurred for the development of any RES project admitted into the Support Scheme will be compensated through the Renewable Energy Fund (REF) managed by the Market Operator. The REF is financed through the collection of a Renewable Energy Charge, which is applicable at transmission level to all suppliers of electricity in Kosovo. REF finances the costs associated with:

- The difference between the Reference Price and the Feed-in Tariff.
- The compensation for the imbalance costs of RES generators admitted into the Support Scheme.
- Costs incurred by the Market Operator in managing and operating the fund and any other costs.

The costs of the REF are covered by the suppliers in proportion to their participation in the electricity market, and this cost is then allocated by the suppliers to all end-use customers. During 2020, in the absence of a methodology for the calculation of the reference price, the financing of the REF was enabled through a Renewable Energy Tariff, applied at the transmission level to all electricity suppliers in Kosovo. However, in December 2020, ERO approved the Methodology for setting the Reference Price for energy generated from RES. The applicable reference price for 2021 based on methodology approved by ERO is €65.18[24].

6. Please provide information on how, where applicable, the support schemes have been structured to take into account RES applications that give additional benefits, but may also have higher costs, including biofuels made from wastes, residues, non-food cellulosic material, and ligno-cellulosic material?) (Article 22 (1)c of Directive 2009/28/EC)).

Support schemes for the promotion of RES have so far been structured primarily to enable electricity production and provide grid access for renewable electricity and heating, not for secondary purposes or benefits.

7. Please provide information on the functioning of the system of guarantees of origin for electricity and heating and cooling from RES, and the measures taken to ensure reliability and protection against fraud of the system. (Article 22(1)d of Directive 2009/28/EC)).

The Kosovo Energy Regulatory Office (ERO) developed and approved the Rule on Guarantees of Origin for electricity produced from RES, waste incineration and combined heat & power plants in December 2010. However, the necessary mechanisms for issuing and electronically monitoring the certificates of origin were not established. As of today, no applications have been received by ERO for the issuance of any Guarantee of Origin. The draft RES Law which is in the process of finalization, includes dispositions in alignment with the Clean Energy Package pertaining to Certificate of Origin. The law is expected to be approved in early 2023, paving the way for further amendments of the secondary legislation and the establishment of electronic mechanisms for the issuance of certificates of origin in accordance with the RES Directive.

In January 2022, a regional project for guarantees of origin was launched by the Energy Community, with Kosovo being among the beneficiaries[25]. The project envisages the establishment of an electronic system to manage the issuance, transfer, and cancellation of guarantees of origin in line with EU rules and principles. The implementation of this project

[24] ERO Final Consultation Report for Regulated Operators (Response to Comments) pg.7 at :https://www.ero-ks.org/zrre/sites/default/files/Publikimet/Pjesemarresit%20ne%20Treg/Furnizim/Raporti%20p%C3%ABrfundimtar%20p%C3%ABr%20MAR_P%C3%ABrgjigje%20ndaj%20Komenteve.pdf

[25] https://www.energy-community.org/news/Energy-Community-News/2022/01/26.html

will allow each member of Contracting Parties to have its own national register, as well as enable the regional trading of guarantee of origins.

8.Please describe the developments in the preceding 2 years in the availability and use of biomass resources for energy purposes. (Article 22(1)g) of Directive 2009/28/EC)).

It is suggested that tables 7 and 8 are used to provide more detailed information on the biomass supply.

Table 7: Biomass supply for energy use

	Amount of domestic raw material (*)		**Primary energy in domestic raw material (ktoe)**		**Amount of imported raw material from EU (*)**		**Primary energy in amount of imported raw material from EU (ktoe)**		**Amount of imported raw material from non EU(*)**		**Primary energy in amount of imported raw material from non EU (ktoe)**	
	Y2021	**Y2020**	**Y21**	**Y20**	**Y21**	**Y20**	**Y21**	**Y20**	**Y21**	**Y20**	**Y21**	**Y20**
Biomass supply for heating and electricity:												
Direct supply of wood biomass from forests and other wooded land energy generation (fellings etc.)**	175,715[26]m3	167,369 m3										
Indirect supply of wood biomass (residues and co-products from wood industry etc.)**	20.000-30.000 m3/year											
Energy crops (grasses, etc.) and short rotation trees (please specify)												
Agricultural by-products / processed residues and fishery by-products **	481,952 t	503.785 t										
Biomass from waste (municipal, industrial etc.) **												
Others (please specify)												
Biomass supply for transport:												
Common arable crops for biofuels (please specify main types)												
Energy crops (grasses,etc.) and short rotation trees for biofuels (please specify main types)												
Others (please specify)												

[26] Direct communication with Forestry Agency of Kosovo, 22 December 2022

The forests of Kosovo are considered an important national resource for renewable sources of energy. According to official data, total forested area in Kosovo is estimated at 481,000 ha, of which 62% is publicly owned.

Illegal logging remains a key concern in the forestry sector. In 2021, the Ministry of Agriculture established the Inter-Ministerial Group, and other sub-working groups, responsible for drafting the Strategy for Development of Forests 2021-2030. This is pending for approval. The final draft reports that 40% of public forests and 29% of those privately owned are subject to illegal cutting and uncontrolled actions[27]. Going forward, the prevention of illegal logging and the protection of forests is a priority for the Government.

Wood biomass includes assortments of technical wood (they are scarce), firewood, and forest residues. Data on forest biomass mainly come from the situation reported on the regular forest intervention activities. Different reports estimate that actual annual logging is between 1.6 and 2.0 million m^3. In addition to this reported data, it is estimated that illegal logging totals are between 900,000 and 1.2 million m^3 annually. Kosovo has no fast-growing tree plantations or short production cycle for biomass.

The wood industry (sawmills) is estimated to process around 50,000 m^3 of wood per year, with 7-15% wood waste. Over 70% of this wood mass for processing is imported. Wood fuel production (briquettes/pellets) is estimated to be 20,000 to 30,000 tons per year.

Table 8: Current domestic agricultural land use for production of crops dedicated to energy production (ha)

Land use	**Surface (ha)**	
	2021[28] Year n-1	2020[29] Year n-2
Arable land – field	188.374,71	188.371,71
-From which vegetables in the open field (first crop)	8.490,51	8.435,24
-From which vegetables in greenhouses (first crop)	562,49	546,71
Garden	1.089,42	1.132,68
Plantations of fruits	10.144,07	10.029,31
Plantations of vineyards	3.471,23	3.436,92
Seedlings	140,26	136,66
Meadows and pastures (including common land)	217.106,91	217.102,26
Total used area of agricultural land	**420.326,60**	**420.209,54**

The data retrieved from Agricultural Holding Survey of 2021 shows that the total utilized area of agricultural land is 420,326.60 hectares, most of which (217,106.91 hectares or 51.65%) is meadows and pastures (including common land), while arable land, including open field vegetables and greenhouse vegetables, is 188,374.71 hectares (44.82%).

[27] Final Draft of Strategy for Development of Forests 2021-2030 pg.7
[28] Agriculture Holding Survey 2021, pg.17
[29] Agriculture Holding Survey 2021, pg.11

Table 9: Crops on arable land - fields, production, and yield

Crops	Area (ha)		Production (ton)		Yield (t/ha)	
	2021[30]	**2020**[31]	**2021**	**2020**	**2021**	**2020**
Cereals for grain	124.477,18	124.714,31				
Wheat	79.969,65	80.473,20	322.018,04	341.818,15	4,0	4,2
Corn	39.709,67	39.684,39	170.393,15	175.180,46	4,3	4,4
Barley and barley beer	2.059,76	1.982,27	5.609,82	5.764,08	2,7	2,9
Rye	555,13	424,71	1.409,32	1.153,07	2,5	2,7
Oat	2.030,25	2.008,87	4.499,93	4.769,42	2,2	2,4
Other grain cereals	152,72	140,87	441,00	426,78	2,9	3,0
Legumes for grain(dry)	3.028,95	3.015,71				
Beans	2.913,98	2.904,19	5.349,35	5.708,14	1,8	2,0
Grain peas	69,35	68,24	137,92	152,43	2,0	2,2
Other legumes	45,62	43,27	115,54	126,03	2,5	2,9
Industrial crops	884,86	1.065,16	1.022,24	1.347,50	1,2	1,3
Potatoes	3.853,75	3.770,51	73.984,26	74.508,02	19.2	19,8
Vegetables (open field and greenhouses)	9.053,00	8.982,76				
Forage crops	37.626,79	37.514,18				
Lucerne	18.359,70	18.328,69	82.329,93	85.502,54	4,5	4,7
Clover	930,55	904,37	3.551,05	3.652,25	3,8	4,0
Mixture of grass	9.292,91	9.260,77	28.819,13	30.583,62	3,1	3,3
Vetch	615,33	661,17	2.658,95	3.045,08	4,3	4,6
Green corn	7.061,39	7.036,73	118.936,82	120.653,15	16,8	17,1
Green wheat	407,31	390,78	3.044,00	3.044,03	7,5	7,8
Green oat	800,61	787,91	5.634,54	5.771,18	7,0	7,3
Green barley	56,70	51,02	205,42	195,69	3,6	3,8
Green rye	35,31	26,92	316,36	267,82	9,0	10,0
Other green fodder (vetch)	66,98	65,83	258,19	270,98	3,9	4,1
Roots, fodder cabbage and pumpkin	2.689,10	2.618,75				
Forage fodder	77,19	41,70	1.277,59	722,75	16,6	17,3
Pumpkin	2.611,91	2.577,05	22.326,27	22.535,42	8,5	8,7
Flowers and decorative plants	21,85	17,50				
Seeds and vegetable seedlings	24,40	19,30				
Other crops	17,35	16,93		78,10	4,4	4,6
Fallow land	6.697,49	6.635,59				

[30] Agriculture Holding Survey 2021, pg.18
[31] Agriculture Holding Survey 2020, pg.12

9. Please provide information on any changes in commodity prices and land use within Republic of Kosovo in the preceding 2 years (2020 and 2021) associated with increased use of biomass and other forms of energy from renewable sources? Please provide where available references to relevant documentation on these impacts in your country. (Article 22(1) h) of Directive 2009/28/EC)).

Due to a lack of reporting data, the effect of increased use of biomass cannot be observed in commodity prices.

10. Please describe the development and share of biofuels made from wastes, residues, non-food cellulosic material, and lingo cellulosic material. (Article 22(1) i) of Directive 2009/28/EC)).

For the reporting period 2020 and 2021, no legal framework was in place for the regulation of the biofuels in Kosovo. As such, the production and import of biofuels could not be verified.

It should be noted that progress has been made in this direction as provisions related to the sustainability of biofuels were partially transposed through the Law nr.08/L-018 on Trade in Petroleum Products and Renewable Fuels, adopted in 2022. Moreover, the Government of Kosovo is in the process of drafting the Law on Renewable Energy which foresees partial dispositions related to biofuels. The Law is pending for approval in 2023.

Table 10: Production and consumption of Art.21(2) biofuels (Ktoe)

Article 21(2) biofuels[32]	**2021** *Year n-1*	**2020** *Year n-2*
Production – Fuel type X (Please specify)		
Consumption – Fuel type X (Please specify)		
Total production Art.21.2.biofuels		
Total consumption Art.21.2. biofuels		
% share of 21.2. fuels from total RES-T		

11. Please provide information on the estimated impacts of the production of biofuels and bioliquids on biodiversity, water resources, water quality and soil quality within your country in the preceding 2 years. Please provide information on how these impacts were assessed, with references to relevant documentation on these impacts within your country. (Article 22 (1) j) of Directive 2009/28/EC).

For the reporting period 2020 and 2021, no legal framework was in place for the regulation of the biofuels in Kosovo. As such, the production and import of biofuels could not be verified. Therefore, (environmental) impacts of such production is non- existing in Kosovo for the reporting period.

12. Please estimate the net greenhouse gas emission savings due to the use of energy from renewable sources (Article 22 (1) k) of Directive 2009/28/EC)).

GHG emissions from electricity were computed using the emission factors for CO2 for Kosovo A and Kosovo B (Kosovo's two large coal-fired power plants), which were retrieved from approved Energy Balance Reports for the years 2020[33] and 2021[34]. The emission factors for CH4 and N2O were retrieved based on the IPCC data for the energy industry, received from the Environment Agency of Kosovo for 2020. The total GHG savings from the production of

.
[33] ERO Energy Balance Report year 2020 pg.16
[34] ERO Energy Balance Report year 2021 pg.19

electricity from RES was estimated by multiplying the electricity produced from renewables for each respective year by the emission factor of CO2eq (CO2+CH4+N20).

For heating and cooling, data was retrieved for each year from SHARES data published by Eurostat[35]. The amount of energy consumed for heating was computed by utilizing the CO2eq factor, calculated for the electricity production plus network losses (transmission and distribution), retrieved from the Annual Reports of ERO for 2020 and 2021.

The data indicates that there was a significant increase in net GHG savings from renewable energy in electricity during 2021 as compared to 2020. This reflects the additional RES capacities brought online during this period.

Table 11: Estimated GHG emission savings from the use of renewable energy (t CO2eq)

Environmental aspects	**2021** *Year n-1*	**2020** *Year n-2*
Total estimated net GHG emission saving from using renewable energy		
- Estimated net GHG saving from the use of renewable electricity	540,472	367,248
- Estimated net GHG saving from the use of renewable energy in heating and cooling	2,991,625	2,827,435
- Estimated net GHG saving from the use of renewable energy in transport	0	0

13. Please report on (for the preceding 2 years) and estimate (for the following years up to 2020) the excess/deficit production of energy from renewable sources compared to the indicative trajectory which could be transferred to/imported from other Contracting Parties, Member States and/or third countries, as well as estimated potential for joint projects until 2020. (Article 22 (1) l, m) of Directive 2009/28/EC)).

Table 12: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Contracting Parties, Member States and/or third countries in Republic of Kosovo (ktoe)

	2016	**2017**	**2018**	**2019**	**2020**	**2021**
Actual/estimated excess or deficit production (Please distinguish per type of renewable energy and per origin/destination of import/export)						

13.1 Please provide details of statistical transfers, joint projects and joint support scheme decision rules. If a Contracting Party decided to implement Article 8 and/or 9 of the Ministerial Council Decision it should report on the measures taken to arrange for an independent external audit, in accordance with Article 13 of Ministerial Council Decision.

Law on Energy Nr. 05/L – 081, Article 13 paragraph 1.6 foresees that "Ministry shall conclude agreements for international cooperation in project development, or common support schemes for renewable sources, including matters related to statistical transfer of energy from renewable sources. In order to provide details on the functionality of the statistical transfers, Administrative Instruction 06/2017 on Utilization and Promotion of energy generated from RES foresees dispositions for participation in statistical transfer and/or joint support schemes between Energy Community Contracting Parties.

[35] https://ec.europa.eu/eurostat/web/energy/data/shares.

The same document foresees provisions related to the joint projects enabling cooperation with one or more member states or third parties on all types of joint projects that are related to production of electric and thermal energy from renewable sources.

However, despite the legal provisions in force, for the reporting years 2020-2021, no statistical transfers, joint projects and joint support scheme have been implemented.

14. Please provide information on how the share for biodegradable waste in waste used for producing energy has been estimated, and what steps have been taken to improve and verify such estimates. (Article 22(1)(n) of Directive 2009/28/EC).

Waste processing in Kosovo is still based on landfilling. The (publicly owned) waste processing industry in Kosovo has so far not been able to produce energy from biodegradable waste. However, a positive development was reported at the end of 2021 as the municipality owned district heating company in Gjakova commenced commercial operations of the first biomass-based (wood waste and vine pruning) cogeneration plant, with a capacity of 1.2 MW. This replaced an old heavy fuel-based system.