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Feed-in tariffs and importance for investments in Kosovo

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Abbreviations

EU	European Union
RES	Renewable Energy Sources
FiT	Feed-in Tariffs
HPP	Hydro Power Plant
SHPP	Small Hydro Power Plant
EC	European Commission
KOSTT	Transmission System Operator (TSO) and Market Operator (MO)
ktoe	Kiloton oil equivalent
MEM	Ministry of Energy and Mines
MTI	Ministry of Trade and Industry
MED	Ministry of Economic Development
NAPRES	National Action Plan on Renewable Energy Sources
ECT	Energy Community Treaty
AI	Administrative Instruction
ERO	Energy Regulator Office

1. Introduction

Many countries are applying feed-in tariffs as a mechanism for the development of clean energy. Feed-in tariffs are economic policies created to promote investments in Renewable Energy Sources (RES). As such their application is regulated by law.

Through feed-in tariffs, producers of energy from renewable sources have assurances that the energy produced will be purchased. This purchase guarantee is accompanied with a priority of purchase in comparison to energy produced from coal, and also the provision of access to the grid. It is exactly the feed-in tariffs that obligate the national or regional energy companies to purchase energy generated from renewable sources with market norms determined by the government.

The first feed-in tariffs were implemented by the Jimmy Carter administration in the USA at the end of the 1970s. Jimmy Carter signed the National Energy Act in order to promote energy saving together with the development of new renewable energy sources, like solar, wind and geothermal energy. Since that time, feed-in tariffs have been widely used throughout the world, and more significantly in Germany, Spain and other parts of Europe.

The experience of countries that have applied feed-in tariffs indicates that they can be used for fulfilling a number of policy objectives in the country, including: economic development, job creation, and the achievement of state objectives in the production of energy from renewable sources. This because RES provide a reduction in the carbon dioxide (CO2) which is emitted in the atmosphere; reduces dependence on fossil fuels; and reduce dependence on natural gas and oil reserves, which on a daily basis are becoming more expensive and more difficult to find.

Developing countries which have coal as a source of energy often exhibit hesitation to promote renewable energy sources, as the cost of producing energy from these sources is considered expensive. However, experience indicates that investments in RES will pay off in the long-term. Fossil fuels can be the cheapest option in the short-term, but as exhaustible resources they are the main cause of global warming, a cause of respiratory diseases, and of premature deaths. Additionally, energy technologies from renewable sources are becoming

cheaper, as a consequence of technological changes, advantages of mass production and competition in the market, even though in short-term they remain a more expensive option.

Countries in which feed-in tariffs have been applied have seen an increase in investment in technology used for energy production from renewable sources. In particular this is the case in Germany, Denmark and Spain, which are the largest European users of alternative energy, in particular the wind energy.[1]

The system of feed-in tariffs in Kosovo does not have a long tradition and only in the recent years there have been attempts to apply such an incentive policy. It can be said that the feed-in tariffs are almost an unknown term for the wider public. This is because electrical energy and coal for a very long time were almost a synonymous with one another. Feed-in tariffs in Kosovo where lately presented with a tendency to approximate the local legislation with that of the EU, in order to fill the gap in electrical energy supply which otherwise needs to be covered by imports of electrical energy at very high prices, and also with the raising of serious environmental concerns as a result of coal burning.

One of the strategic objectives of Kosovo is the integration in the European Union. Integration in the EU, amongst other, requires the implementation of the 20-20-20 objectives of the EU plan, which means 20% reduction in the emission of greenhouse gasses, 20% increase in the share of renewable energy sources in the final consumption of energy, and 20% in the improvement of energy efficiency. Therefore, the setting of feed-in tariffs in order to incentivise investors, and the creation of a suitable environment for investments are quite important in improving assurances of energy supply, with better environmental conditions for the country and the achievement of state objectives.

The Kosovo Energy Strategy 2009-2018[2], still applicable, focuses mainly on lignite and the production of energy from lignite, by leaving aside the issue of renewable energy sources. The Kosovo Energy Strategy 2009-2018 (hereinafter as the 'Strategy') includes studies of lignite

[1] Reiche, D., Bechberger, M., 2004. Policy differences in the promotion of renewable energies in the EU member states. Energy Policy, 32 (7), 843–849.

[2] This is because the review of the Strategy has begun to be initiated only now at the end of December 2013. From experience it is noticeable that the adoption of the Strategy is occurring a year later from the time it should have entered into force, which is a practice in violation of the Law on Energy itself. According to the Law on Energy, every three years after entry into force, the Government is obliged to review the Energy Strategy.

capacity, evaluation of the current situation in the two existing thermo power plants, and the consideration of new possible investments in lignite based energy production, but does not include any study on the alternative forms of energy production like wind energy, solar, geothermal energy, etc.

However, the Government of Kosovo, specifically the Ministry of Economic Development (MED) has adopted the required installed capacity for the fulfilment of indicative goals in the consumption of RES for the period 2013-2020. The RES goals determine the share of the percentage in the Gross Final Consumption of Energy (GFCE) which for Kosovo is 25%. The achievement of this mandatory goal of 25% as such is also a great challenge for Kosovo. However, with Administrative Instruction 01/2013 and the National Action Plan on Renewable Energy, the MED has taken responsibility for another non-mandatory goal of 29.47%[3].

The MED in its national plan foresees for the mandatory quota of 25% of energy from RES in consumption to be achieved mainly from hydro energy. Nevertheless, in order to achieve such a rate, large investments are required in all the renewable energy sources. The lack of strategic plans, studies and surveying of real capacities in Kosovo for the production of energy from RES, make the achievement of this obligation more difficult. Therefore, action is initially required towards the filling of this gap in order to open the path of improving the energy situation and attraction of investments.

The feed-in tariffs in Kosovo have been developed by the Energy Regulator Office (ERO). Kosovo has not yet set feed-in tariffs for the different types of renewable energy. They exist only for renewable energy sources covering water, wind and biomass. The lack of feed-in tariffs makes it impossible to establish the basic foundation of incentives and the creation of a suitable environment for interested investors in energy generation from renewable resources in Kosovo.

[3] National Action Plan on Renewable Energy Sources (NAPRES) 2011-2020. The non-mandatory goal has a promotional character and serves as a basis for the setting of the Feed-in tariffs.

2. Purpose of the paper and methodology

In order to see what action needs to be taken in Kosovo, this paper will briefly consider the legal and institutional framework regulating energy and the current situation with feed-in tariffs in Kosovo. However, a pivotal part of this paper will be the comparison of feed-in tariffs of Kosovo in relation to countries of the region and some EU member countries. This comparison will serve to analyse how attractive Kosovo is for investments in the energy sector produced from renewable sources in relation to countries of the region.

As part of the framework of the membership in the Energy Community Treaty (ECT), the Directives of the EU and compliance with the *acquis communitaire* on the energy sector are applicable for Kosovo also.[4] Therefore, as a country and according to the provisions of the Energy Community Treaty, Kosovo is committed to increase the amount of energy from renewable sources in its general portfolio and it has also taken responsibility to transpose the Directive 2009/28/EC. In this manner, the analysis of the compatibility of the legal basis in Kosovo with that of the EU is a core component of this paper. With the aim of verifying the compatibility of the legal basis with that of the EU and the practical requirements, the national legal framework was analysed also, like the Law on Energy, Law on Electrical Energy, and the Energy Strategy of the Republic of Kosovo 2009-2018.

The methodology employed in this paper is a combination of quantitative and qualitative research. In the quantitative research part data was used from official reports of institutions responsible for the field of renewable energy. In the qualitative research part interviews were conducted with the principal representatives of institutions that regulate this field. The specific nature of the problem has influenced the selection of the combined methodology, as quantified data was required as well as its qualitative analysis.

[4] The Directive for the Promotion of the Use of Energy from Renewable Sources me Article 37, which states: 'Pursuant to a decision taken based on the Energy Community Treaty on renewable sources, the contractual parties of the Energy Treaty are bound to the given provisions of this Directive, therefore, the measures of cooperation between the members states foreseen in this Directive will be applicable also for the non-EU member states'.

The gathering of quantitative data was necessary in order to gain a picture of the feed-in tariffs and their level and duration. Such data has been expressed in the same units and has been presented in a table format in order to provide a clearer idea of the numerical facts. The quantitative data have always been presented in comparison to other countries in order to serve the comparative analysis as one of the main instruments of this paper.

The qualitative method was used to analyse the causes and to gain in-depth knowledge of the problem in the context of Kosovo. The interviews with the key players in the policy making process of this field has contributed to the analysis part. The qualitative analysis records the causes and consequences of the main findings in the quantitative part.

Lastly, the paper contains a range of recommendations for the key institutions of the country which were considered necessary for changing the current situation. The recommendations have been developed taking into consideration the current needs of Kosovo, and the institutional capabilities and capacities for their implementation. In this regard, the recommendations of this paper aim to represent a basis for changing the current policy towards the promotion of investments in the field of renewable energy in Kosovo.

3. Legal and Institutional Framework

Energy from renewable sources was one of the priorities of policy making in Europe and in the countries that aspire the EU membership. These priorities have been materialised in the general Directives which have led to the drafting of legislation at country levels also. The European Directive 2009/28/EC, has established the basis for regulating clean energy at the community level.[5] Considering that Kosovo is a signatory of the Energy Community Treaty[6], it has accepted the responsibilities that stem from the Directive 2009/28/EC. With the signing of this agreement, Kosovo has agreed to harmonise the local legislation in the field of energy and to ensure the liberalisation of the energy market.

The European Directive, which determines the goal that by 2020 there would be 25%[7] energy produced from renewable sources, also determines a range of measures which countries have to undertake in order to fulfil this obligation. In order to achieve such an ambitious goal, the implementation of incentive measures for producers is required, as is the case with feed-in tariffs. For Kosovo the share of energy from renewable sources in the final gross consumption of energy for 2009 was 18.9%[8], while by 2020, it should reach 25%. In order to achieve this goal and due to the efficiency of feed-in tariffs in term of incentivising and securing of clean energy production, their implementation is very important.

Nevertheless, Kosovo does not have a special law on the management of the energy from renewable sources and for the promotion of investments in this sector. However, the Law on Energy[9] and the Energy Strategy 2009-2018 cover in broad terms the principles of policy development in this field. While the Law on the Energy Regulator contributes to the complementing of the legal basis as it determines the Energy Regulator Office (ERO) as the

[5] European Parliament and Council, Directive 2009/28/EC on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC, taken from: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=Oj:L:2009:140:0016:0062:en:PDF.

[6] The Energy Community Treaty is a community established by the European Union through a Treaty between the EU and third countries (mainly of the south-eastern part of Europe), which aspire to membership in the EU, with the aim of harmonising legislation in the field of energy.

[7] Energy Community Treaty, taken from: http://www.energy-community.org/portal/page/portal/ENC_HOME/AREAS_OF_WORK/RENEWABLES/Acquis.

[8] Energy Community Treaty, http://www.energy-community.org.

[9] With the current Law on Energy the development of medium-term plans is required, but the European Directive 2009/28/EC does not require the development of such plans. Therefore, the redrafting of the Law should be conducted, because as such it does not comply with the European Directive 2009/28/EC.

sole authority in the setting of tariffs.[10] Consequently, the Energy Regulator is responsible for the setting of energy feed-in tariffs, for preliminary consultations with interested parties and for the justification of their establishment. Another important document is the Kosovo Plan on Renewable Energy Sources (KPRES) 2011-2013[11], a document which until November of 2013 was considered as draft, but has since been adopted by the Government of Kosovo.

Directive 2009/28/EC of the European Union obliges the states to undertake measures to promote investments in the field of clean energy. This directive encourages the implementation of incentives in promoting the consumption of clean energy. [12] These measures have been foreseen in order to achieve the production goal of at least 20% of the total energy from RES at the level of the Energy Community. Directive 2009/28/EC obliges the states to utilise a part of the energy from biofuels by 2020, in particular for achieving the goal of 10% of energy in the field of transportation. This Directive 2009/28/EC is the basis for regulating the European priorities on energy from renewable sources.

The Law on Energy foresees the undertaking of measures towards the fulfilment of goals on energy production from renewable sources. The responsibility for setting of these goals lies with the Ministry of Economic Development (MED). The new Administrative Instruction, No. 01/2013 has determined the goals for RES for Kosovo up to 2020, which is different from the AI 06/2007 which determined the goals only up to 2016.[13] The following table indicates the level of foreseen energy to be produced from renewable sources up to 2020[14] (expressed in kiloton oil equivalent).

	Energy Source	Electrical energy from RES (ktoe)							
		2013	2014	2015	2016	2017	2018	2019	2020

[10] Kosovo Assembly, Law No. 03/L-185, on the Energy Regulator, Prishtina 2010.
[11] Ministry of Economic Development, http://mzhe.rks-gov.net/repository/docs/Plani_i_BRE_shqip_tetor2013.pdf
[12] European Parliament and Council, Directive 2009/28/EC on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC, 9 April 2009.
[13] Ministry of Energy and Mines, Administrative Instruction 06/2007 on the indicative Goals of Electrical and Thermal Energy production from renewable sources of energy and coproduction, Prishtina, 2007.
[14] Administrative Instruction no. 01/2013 of the Kosovo Government

1	Solar energy		0.53	0.71	1.06	1.24	1.42	1.59	1.77
2	Solid biomass		1.29	2.58	3.87	5.16	6.45	7.74	9.03
3	Wind	0.233876	5.431125	12.126913	15.591745	19.056578	22.52141	24.253826	25.986242
4	Existing Small Hydro Power Plants	11.2554	11.2554	11.2554	11.2554	11.2554	11.2554	11.2554	11.2554
5	New Hydro Power Plants		23.22	54.17	59.04	61.91	69.65	77.39	92.86
6	Hydro Power Plant of Zhur					34.22	34.22	34.22	34.22
7	Energy Total	11.49	41.72	80.84	89.82	132.84	145.51	156.45	175.13

Note: Taken from the Administrative Instruction No. 01/2013 of the Kosovo Government

As can be seen in the table, by 2020 an increase has been foreseen in the production of energy from renewable sources reaching up to 175.13 ktoe. The review of indicative goals with the Administrative Instruction No. 01/2013 for electrical energy produced from RES, which are twice as high as the indicative goals determined by Administrative Instruction No. 06/2007[15] is seen as very positive. However, there is no action planed on the steps that need to be taken to allow the achievement of these goals and the measuring of their achievability level.

The guarantee for the use of the transmission system in the service of renewable source energy producers has been established through the Law on Energy. The operators of the transmission and distribution system should provide each new producer of electrical energy the full and detailed assessment related to the costs that are created from connecting to the transmission grid. The operator of the system can charge a fee which reflects its reasonable costs.[16] This makes the operators responsible for supporting the producers of electrical energy from renewable resources.

[15] Administrative Instruction No. 06/2007 was nullified with the entry into force of Administrative Instruction No. 01/2013.

[16] Kosovo Assembly, Law No. 03/L-184, on Energy, Prishtina 2010.

4. Incentive Measures In The Field Of Renewable Energy

Renewable Energy Sources means the use of renewable sources like wind, sun, geothermal heat, biogas and biomass instead of fossil fuels. The development of RES is Kosovo will help the country in the fulfilment of at least three energy policy goals: supporting the general economic development, improvement of security in the supply of energy, and the protection of environment. The development of RES would also help in the achievement of the mandatory target for Kosovo of 25% RES as part of the Energy Community.

The best tools for the attraction of investments in the field of renewable energy and the increase of the green energy level in the energy market are the incentive measures. The measures and policies of the countries in the region and EU countries in relation to the promotion and support to renewable sources are: fixed feed-in tariffs, tax measures, and the quotas for renewable energy.[17]

Feed-in taxes enable the producers of alternative energy to cover the costs of production for a certain period of time, which makes them more competitive in the market. The policy of feed-in tariffs can be thought of as a form of advanced incentivising action based on production, this because payments are made based on the produced electrical energy and not for the installed capacity. The most ordinary payment of feed-in tariffs is based on the current levelled cost of clean energy. This method of payment provides a suitable price in order to ensure a reasonable rate of return on investment for the investors.

Due to the ease of application and their efficiency, feed-in tariffs are the most utilised mechanisms in Europe for incentivising the production of energy from renewable resources. The following table presents the incentive measures applied in 27 EU member countries. From the table it can be noticed that the feed-in tariffs have the largest use.

27 EU member countries	Incentive measures

[17] Tax measures are applied in a way that the foreign investor is exempted from taxes. This practice has been made for the purpose of reducing the cost of investment and the production of renewable energy. The system of incentive measures in taxes is applied in countries like the United Kingdom, Holland, Slovenia, Finland, etc. Whereas, the system of quotas is widely applied and means the setting of minimum quotas on renewable energy which should mandatorily go in the market in parallel to other energy.

Country	Fixed feed-in tariff	Tax measures	Quotas for energy from renewable sources
Austria	x		
Belgium	x	x	X
Bulgaria	x		
Cyprus	x		
Czech Republic	x		
Germany	x		
Denmark	x		
Estonia	x		
Spain	x	x	
Finland		x	
France	x		
Greece	x	x	
Hungary	x		
Ireland	x		
Italy	x		x
Lithuania	x		
Luxemburg	x		
Latvia	x	x	
Malta	x		
Holland		x	
Poland		x	X
Portugal	x		
Rumania			X
Sweden		x	X
Slovenia	x		
Slovakia	X	x	
United Kingdom	X	x	X

5. Importance Of Feed-in Tariffs

Different countries are increasingly using energy from renewable sources in order to reduce the climatic changes. An important role in this process has been played by internal policies undertaken in the form of supportive measures of prices as feed-in tariffs. Feed-in tariffs have played a role in the promotion of much needed public and private investments, both domestic and foreign in the sector of renewable energy in the EU countries and countries of the region.

Amongst the many different forms of RES investment promotion, feed-in tariffs have been seen as the most suitable in covering part of the production cost of clean energy. Even in cases when other incentive measures have been taken, feed-in tariffs have nonetheless been established in combination with other measures. This type of tariff is the most preferred mechanism of the European Commission (EC) as noted in the EC plan for the increase of RES energy consumption and the reduction of CO_2 emissions for the period up to 2025.

The feed-in tariff policy provides a much better method of promoting quick growth of renewable sources, from which the tariff payers, developers of clean energy and society as a whole benefits. The importance of feed-in tariff policies is found in the fact that they provide a sustainable environment for investments and exhibit long-term security in payment conditions. The feed-in tariff is becoming the key policy being used in order to replace the energy mix from fossil fuels with RES in order to address the security of energy supply, climatic changes and economic growth. The advantages of electrical energy generated from RES are widely accepted. However, the development of RES requires a range of incentives, as their technologies cannot compete in the energy market with conventional technologies of energy production.[18] Nevertheless, it is worth mentioning the fact that the cost of some parts of RES technologies since 1960 and 1970 is continuously becoming cheaper.

Feed-in tariffs are applied in order to support all types of renewable source technologies: wind, solar, biogas, biomass, geothermal. If the levels of payment are divided appropriately, feed-in tariffs can increase the development of different types of technologies on a wide geographical zone by contributing to the creation of jobs and the increase in clean energy in

[18] Rexha, B, Dragusha, B, 'Utilisation of renewable energy sources in Kosovo up to 2020', Third International Conference on Energy and Climatic Change, Athens, 2 October 2010.

different sectors of technology. The use and success of feed-in tariffs throughout the world and especially in Europe[19], gives the impression that the importance of feed-in tariffs will continue to grow also in Kosovo as they offer a successful framework for investments and the promotion of renewable energy development and the creation of jobs.

Feed-in tariffs have proven to be more effective: Prices paid for wind energy in the United Kingdom and Italy (without fixed tariffs) are higher than the fixed feed-in tariffs. For example, in the United Kingdom about 1/3 more is paid for wind energy than in Germany.[20] Such a difference is due to the insecurity of prices.

The Kosovo Law on Electrical Energy suggests the use of the feed-in tariff scheme and the use of Certificates of Origin. International experience suggests that feed-in tariffs are particularly effective in the promotion of the use of clean energy for the production of electrical energy. Investors prefer feed-in tariffs because they offer security of income from the sale of electrical energy produced from RES.

Following the best practices can contribute to the achievement of success, cost efficiency, and general performance of reasonable policies. The most successful policies of feed-in tariffs are based on the prices offered to the supplier on the levelled cost of production for alternative energy in order to ensure a reasonable rate of return on investment. Other good practices include the offering of long-term contracts; differentiation of the tariff rates according to technology type, volume of the project and the quality of the sources; digressive tariffs, a feature of projection which includes a decrease in the rate of the feed-in tariffs as time progresses in order to promote innovations and to speed-up the pace of their establishment by ensuring effective administrative procedures.

[19] Out of 27 member states of BE-së, 21countries implement feed-in tariff policies, accept for: Denmark, Finland, Holland, Poland, Romania and Sweden.
[20] Incentive schemes for renewable energy, taken from: http://www.greenrhinoenergy.com/renewable/context/incentives.php.

6. Feed-in Tariffs And Their Types

Feed-in tariffs vary according to the type of energy produced. The level of the feed-in tariff depends on the technology, volume, and system type. Feed-in tariffs for wind energy and hydro energy in most cases are lower than tariffs of other types of energy from renewable sources. The low prices are a consequence of the fact that the cost of installations for production of energy from biomass, geothermal and solar sources are considered to be higher. Therefore, even the investors who invest in these types of energies gain higher feed-in tariffs. In Kosovo, feed-in tariffs are set for hydro, wind, biogas and biomass energy, while feed-in tariffs for the production of solar energy and the geothermal one are missing.

The set tariffs are fixed and the formula with which they should be calculated is not determined by law. Based on the Law on the Energy Regulator, it is the Energy Regulator Office (ERO)[21] which with specific decision determines the level and the methodology of tariff evaluation.

Feed-in tariffs aim to secure a long-term contract for the investor which will guarantee a price that will provide a return on investment. In some cases a mechanism called 'tariff digression' can be applied, through which as time progresses the gradual reduction of the feed-in tariff is made.

It is often assumed that for photovoltaic solar panels, countries with less annual sun exposure and low prices of energy from conventional sources would pay a higher tariff than the countries which have a higher rate of insolation. Even in Kosovo we often encounter such statements that Kosovo does not have a high rate of insolation, thus the price of solar energy would result in high prices for the consumers. However, such an assumption does not stand. The feed-in tariffs in 2008 in sunny Spain and in Germany with less sun were almost the same, while Greece which has a high rate of insolation paid 20 cents more on the kWh than Spain and Germany. In fact, it can be noticed that there is a linkage between the level of feed-in tariffs and the gap in the achievement of objectives set by the EU on RES for 2020. Countries which are still far from their targets are prone to offer higher prices, which is the case of Kosovo also.

[21] Kosovo Assembly, Law No. 03/L-185 on the Energy Regulator, Prishtina 2010.

The purpose of feed-in tariffs is to achieve a long-term contract with the investor, be that a home owner or one of a larger capacity. The experience of European countries indicates that feed-in tariffs are set for a long-term period between 15-25 years. The duration of feed-in tariffs in Kosovo is set for a shorter period compared to the countries of the region, specifically only for 10 years. The duration of contracts for feed-in tariffs is a crucial promotional or demotivation element for an investor, be that a foreign or domestic one. Such duration of feed-in tariffs has not been justified by the ERO and remains to be a main concern for investors.

a) Level of feed-in tariffs

Feed-in tariffs in Kosovo, which have been set, even though different from those of the countries of the region, are relatively satisfactory. However, the feed-in tariffs for solar energy and geothermal energy in Kosovo have not been set yet. The set tariffs are fixed and the formulas with which they should be calculated are not determined by law. Based on the Law on the Energy Regulator, it is the Energy Regulator which with specific decisions determines the level and the methodology for the evaluation of tariffs.[22] Hence, this office issues decisions in relation to feed-in tariffs, their level and duration.

Differences between Kosovo and the countries compared in this analysis are seen also in the duration of the return on investment. This is due to the fact that Kosovo has tariffs with the shortest period in the region and consequently is in a less favourable position in comparison with other countries in regard to promotion of foreign investments. Additionally, Kosovo has not undertaken steps towards the promotion of investments either from private investors or through bilateral agreements with other countries.

The following table indicates the level of feed-in tariffs applicable for electrical energy from renewable resources in Kosovo.[23]

	Hydro-energy (<10 MW)	Solar	Wind	Biomass	Geothermal
	Expressed in €/MWh				
Feed-in tariff	63.3	/	85.0	71.3	/

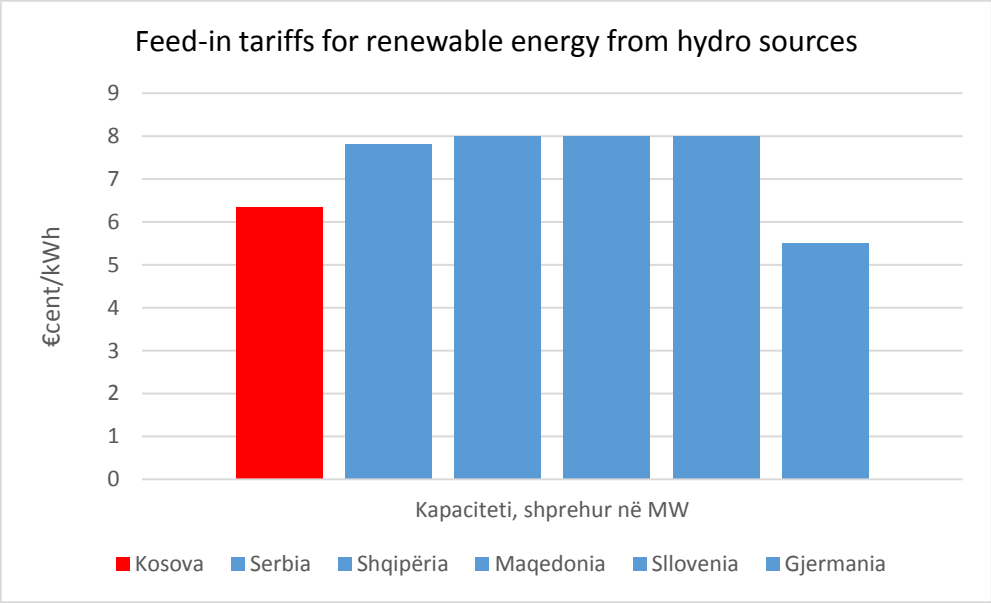
Throughout the analysis it is noticeable that Kosovo has established feed-in tariffs for hydro energy, which are relatively low compared to the countries of the region and those of Europe.

[22] Kosovo Assembly, Law No. 03/L-185, on the Energy Regulator, Prishtina 2010.
[23] Energy Regulator Office, Decision V_359_2011, Feed-in tariffs for Renewable Energy. Taken from: http://ero-ks.org/Vendimet/Shqip/2011/Vendimi_V_359_2011.pdf.

Tariffs for wind energy are also low compared to the higher tariffs applicable in European countries and also in relation to countries of the region.

Hydro Energy

Kosovo has set tariffs which for Hydro Power Plants (<10MW of installed capacity) have a price of 6.33 €cent/kWh. For the same capacity, Germany has set a tariff of 5.50 €cent/kWh, while Albania, Macedonia and Slovenia have a higher tariff than Kosovo, 8.0 €cent/kWh. From this comparison it can be seen that the level of feed-in tariffs of Kosovo for hydro capacities up to 10MW is lower than that of the countries in the region.



The graphically presented data on the level of feed-in tariffs for hydro energy in Kosovo and other comparative countries in this analysis divided based on production capacity.

Countries like Germany, Albania and Greece, have set tariffs for even larger capacities than 10MW. In fact Germany has set tariffs for capacities of above 50MW. Serbia has limited the capacities up to 10MW while the tariffs are from 7.8 €cent/kWh up to 9.7 €cent/kWh. In the case of Serbia it is worth mentioning that half of the energy capacities in Serbia are dependent on hydro energy and the Serbian state has promoted investments in terms of utilising its capacities. In a bilateral agreement with Italy, Serbia has agreed that Italy uses its hydro sources of renewable energy in exchange for the highest feed-in tariffs in Europe.[24] There

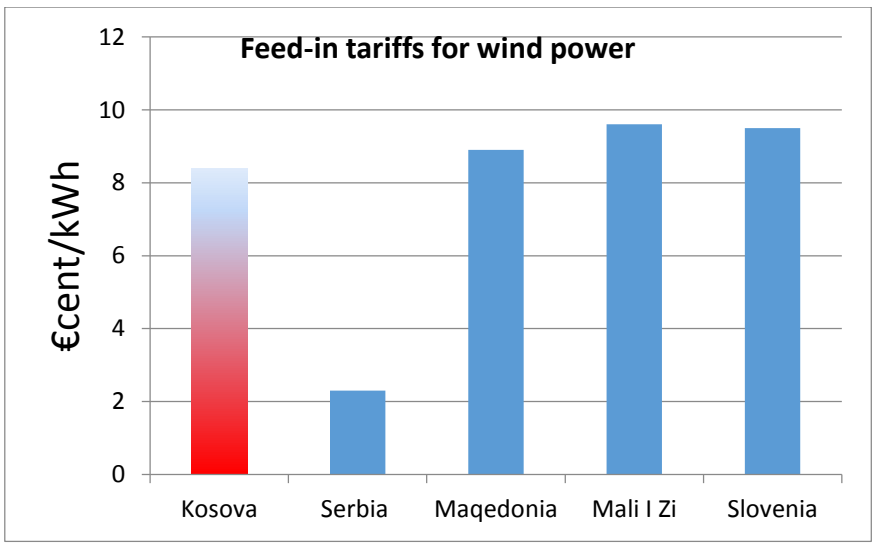
[24] Reservoir Capital, (2012), Renewable Energy in Southeast Europe, Italian Tariffs for Serbian Energy, Taken from: http://www.reservoircapitalcorp.com/i/pdf/CorpPres.pdf.

tariffs will be 155 €/MWh, specifically 15.5 €cent/kWh. In this regard Serbia has ensured larger budget revenues for a satisfactory time period.

Wind Energy

As for the tariffs related to wind energy, it should be said that the highest tariff in Europe is 16.11 €cent/kWh, while the lowest is 5.89 €cent/kWh. Kosovo has set a tariff value of 8.5 €cent/kWh, Macedonia 8.9 €cent/kWh, Montenegro 9.6 €cent/kWh, whilst Slovenia 9.5 €cent/kWh. Serbia has a lower figure of 2.3 €cent/kWh. Germany applies bonuses also for energy derived from wind which comes in from the direction of the seas, namely onshore wind. At the same time, Germany has the largest amount of the bonus tariff it applies for this type of energy, specifically 19 €cent/kWh.

From the data presented (below) on the level of feed-in tariffs for wind energy, we can see that their level in Kosovo does not differ much from the countries of the region. This is because the feed-in tariffs in Kosovo for production of electrical energy from wind through new technologies are calculated from averages of compensation rates of the neighbouring states.



The requests received so far for connections to the power grid are an indicator of the potential for production of energy from wind in Kosovo. Since 2009 a number of investors have applied for connections to the power grid and have planned for a total capacity of 157MW. Three

applications have been presented to KOSTT for connection of wind turbines into the power grid:

- Shtime1 project with a capacity of 100 MW, south-eastern part of Kosovo,
- Shtime2 project with a capacity of 27 MW, south-eastern part of Kosovo,
- Kitka project with a capacity of 30 MW, eastern part of Kosovo.[25]

Biomass

As for biomass energy, the highest tariffs in Europe are 23.61 €cent/kWh, while the lowest is 6.18 €cent/kWh. The United Kingdom, Bulgaria and Slovakia have the lowest tariffs for this energy source, while countries like Italy and the Czech Republic have the highest tariffs for this type of renewable energy source. The feed-in tariff applicable for electrical energy produced from biomass in Kosovo is 7.13 €cent/kWh. For capacities up to 1MW, Croatia has set a tariff of 12.7 €cent/kWh, while Greece has 20 €cent/kWh and Slovenia 22.4 €cent/kWh. For larger capacities of up to 20MW, Germany has set a figure of 6 €cent/kWh. As can be noticed, the level of tariffs for biomass energy in Kosovo is relatively lower than in other countries.

The promotion of investments and the development of electrical energy production from biomass would have double benefits. This because the use of waste as mass for production of energy would lower its level in general and at the same time would enable the production of energy from a renewable source.

Geothermal

Kosovo has also set a feed-in tariff for production of thermal energy from geothermal sources. Amongst the countries with the highest tariffs for geothermal energy is Germany with a tariff of 25 €cent/kWh, whilst Switzerland has a tariff of 27.7 €cent/kWh. While in the countries of the region, Croatia has set a tariff of 15.9 €cent/kWh, Slovenia 15.2 €cent/kWh, whilst Serbia and Montenegro have very low tariffs of 7.5 €cent/kWh and 5.9 €cent/kWh respectively.

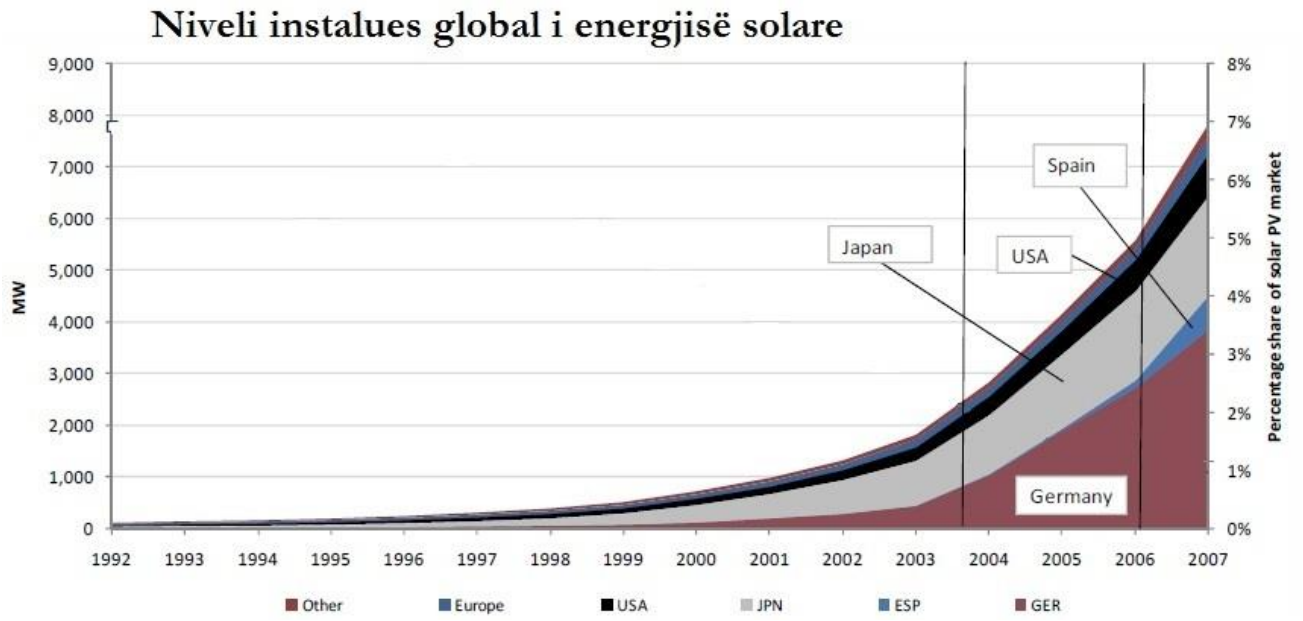
[25] Transmission Development Plant 2012 - 2021, KOSTT, Prishtina 2011, Taken from: http://www.kostt.com/website/images/stories/dokumente/tjera/Plani_Zhvillimor_i_Transmisionit_2012_-_2021.pdf.

Solar Energy

Kosovo still has not set a feed-in tariff for solar energy. The highest tariff in Europe for solar energy of small capacities is 59 €cent/kWh in Switzerland, followed by Bulgaria and Slovenia with 38.9 €cent/kWh and 38.2 €cent/kWh respectively. Amongst European countries, the country with the lowest tariffs for solar energy for small capacities is Germany with 19.5 €cent/kWh, followed by France with 20.4 €cent/kWh and United Kingdom with 24.1 €cent/kWh. Switzerland has the highest tariff for Solar Power Plants of high capacity, with a price of 35.3 €cent/kWh, whilst France and Germany has the lowest. Countries like Serbia, Montenegro and Slovenia have set general tariffs for this source of energy. These tariffs vary from 23 €cent/kWh in Serbia, to 15 €cent/kWh in Montenegro, and 28.8 €cent/kWh in Slovenia. Other countries have applied a general tariff but that varies based on the production capacity. For example, Macedonia has set different tariffs for various production capacities, like Germany and Croatia. It is worth highlighting that Greece has the highest figures in feed-in tariffs for solar energy with 39.20 €cent/kWh for Solar Power Plants of above 100kW capacity, whilst Germany has a lower tariff also for Solar Power Plants which do not exceed 100kW, specifically 21.98 €cent/kWh for such power plants.

As far as solar energy is concerned it should be highlighted that countries like Germany, compared to the year 2004 when the tariff for such energy of up to 100kW was 57.4 €cent/kWh, now has reduced it to 21.98 €cent/kWh. This drastic drop has been applied to small capacities also. In 2012 Germany has applied the digressive tariff which was mentioned previously and the one with an annual reduction of up to 29% for solar capacities that produce 7500MW annually. Germany represents a very good example for the functioning of feed-in tariffs policy. Since the setting of feed-in tariffs in 2000, Germany has significantly increased the level of the renewable energy offer. As can be seen in the following graph, after the application of the feed-in tariff scheme, Germany has increased the level of renewable energy as a consequence of promoting investments in this field with an average of 72 per cent during

these years.



Global installed level of solar energy.[26]

According to potential investors in Kosovo, if we refer to the region, the number of annual insolation hours in Kosovo and the technical problems in subsidising and empowering the renewable sources segment and in particular that of solar energy, they propose to have the following feed-in tariffs: up to 50kW – the sale price to be paid from 13-15 €cent/kWh, and above 50kW – the sale price to be paid from 11-13 €cent/kWh.[27] Such figures, according to potential investors in solar energy are argued and justified with the fact that: different from other sources of clean energy, the technology for solar energy is still a bit more expensive than for other sources of energy. Solar energy is more productive in Kosovo as well as we have sufficient amounts of insolation, and it would be a promoting indicator for foreign investments and would finally contribute towards the achievement of the minimal quota for the implementation of the plan requiring the achievement of the 25% target.

Country	Hydro Power	Wind	Biomass	Solar	Geothermal
Kosovo	6.3 €cent/kWh	8.5 €cent/kWh	7.13 €cent/kWh	/	/
Albania	8.0 €cent/kWh				

[26] Global installed level of solar energy. Taken from "The economics of Feed-in Tariffs for Solar PV in Australia", Report by Access Economics Pty Limited for Clean Energy Council, 2008.
[27] Interview of INDEP with Lulzim Syla, Director of Marketing & Development N.T.SH. "ELEN", Kosovo, May 2013.

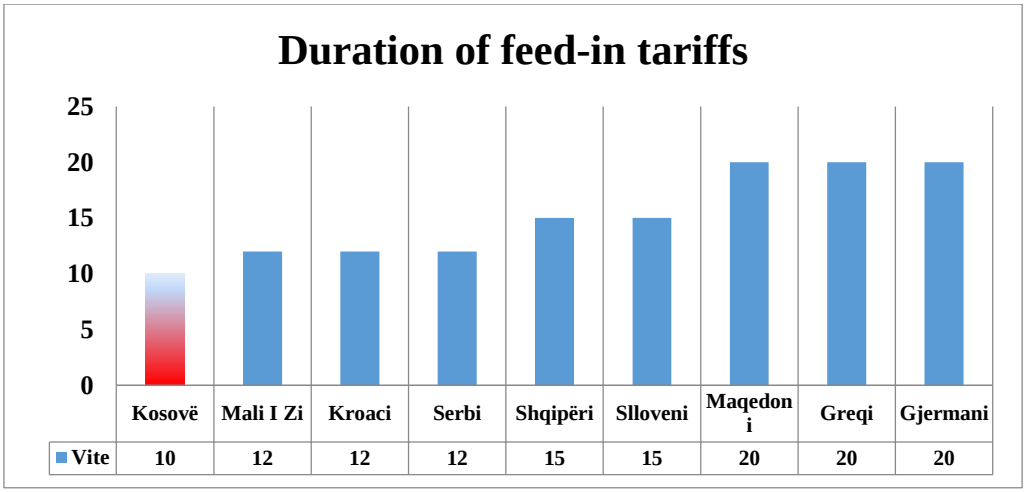
Macedonia	8.0 €cent/kWh	8.9 €cent/kWh	13 €cent/kWh	46 €cent/kWh	
Montenegro		9.6 €cent/kWh		15 €cent/kWh	5.9 €cent/kWh
Serbia	9.7 €cent/kWh	2.3 €cent/kWh		23 €cent/kWh	7.5 €cent/kWh
Croatia			12.7 €cent/kWh		15.9 €cent/kWh
Bulgaria				38.9 €cent/kWh	
Greece	25 €cent/kWh	8.7 €cent/kWh	20 €cent/kWh	39.204 €cent/kWh	15 €cent/kWh
Slovenia	8.0 €cent/kWh	9.5 €cent/kWh	22.4 €cent/kWh	28.8 €cent/kWh	15.2 €cent/kWh
Germany	5.5 €cent/kWh	19 €cent/kWh	6 €cent/kWh	19.5 €cent/kWh	25 €cent/kWh
Switzerland				59 €cent/kWh	27.7 €cent/kWh
France	6.07 €cent/kWh	8.2 €cent/kWh	12.5 €cent/kWh	20.4 €cent/kWh	<12 MW – 20 €cent/kWh
Slovakia	10.9 €cent/kWh	7.92 €cent/kWh	11.3 €cent/kWh	38.2 €cent/kWh	19.6 €cent/kWh
United Kingdom				24.1 €cent/kWh	

From the analysis of all these figures, it can be noticed that the level of feed-in tariffs in Kosovo, at least those set, are relatively at the same level with countries of the region and other countries. Kosovo has a level of feed-in tariffs for hydro energy similar to Germany. Feed-in tariffs for wind energy in Kosovo are similar to those of Macedonia, Montenegro and France. Satisfaction with the level of feed-in tariffs is also expressed by the investors who are satisfied in general with their level.[28] According to them such a level of feed-in tariffs ensures a sufficient profit in order to secure their investments.[29] The levels of feed-in tariffs for hydro, wind and biomass energy sources are relatively in line with the incentive measures of other countries.

b) Duration of feed-in tariffs

From the comparison of Kosovo with other countries, differences are noticed in the duration of feed-in tariffs. Kosovo applies tariffs with the lowest duration in the region as well as compared to EU countries. Tariffs with duration of only ten years are damaging for investors. The longest possible duration of these tariffs gives investors more security in their investment. The following graph indicates the duration of feed-in tariffs in different countries:

[28] Interview of INDEP with Hamdi Malushaj, Chairperson of the Kosovo Association of Renewable Energy (SHERK), Kosovo, June 2012.
[29] Interview of INDEP with Sahit Vokshin, Director of the Company "Air Energy", Kosovo, July 2012



The ERO has not sufficiently justified the setting of such a short duration of contracts for feed-in tariffs. Whereas Kosovo has foreseen for the hydro, wind and biomass energy tariffs to have a duration of 10 years, other countries have a longer duration. Hence, countries of the region like Serbia, Croatia and Montenegro have 12 year duration of tariffs. Albania and Slovenia have duration of 15 years, while countries like Macedonia, Greece and Germany have duration of 20 years. Therefore, the disadvantage of Kosovo in relation to the countries of the region, in additional to the high level of bureaucracy involved in obtaining the authorisation to construct new generating capacities from renewable sources appears to be also the duration of contracts for feed-in tariffs.

The ERO, in the Consultation Report for the Review of the feed-in tariff for Small Hydro Power Plants, has justified such a short duration with only one sentence. 'Taking into consideration the cost of investment and the average time of loan maturity for large and long-term investments, it is decided that the tariff be calculated as an average for 10 years'.[30] Such a justification is insufficient and incomplete considering such an important element for the investors, as is the case with the duration of feed-in tariffs. It is extremely unfavourable for Kosovo to have the lowest duration of feed-in tariffs in the region. For a foreign investor, the duration of feed-in tariffs is the main guarantee for their investment and surely such duration of only 10 years would need to be justified in more detail rather than with just one sentence.

[30] Energy Regulator Office, Review of the Feed-in Tariff for Small Hydro Power Plants, Consultative Report, Taken nga:http://www.ero-ks.org/Price%20and%20Tariffs/Price%20ang%20Tariffs%202008/Komentet_KEK_KOSTT_04_11_08/Komentet_ne_RAPORTIN_KONSULTATIV_per_feed-in_tariffat_KOSTT_alb.pdf

The duration of feed-in tariffs represents a concern for the investors. According to them, the minimal duration of ten years is extremely short, and they are not satisfied with the existing duration.[31] This short duration contributes to an increase in their investment risk. Therefore, even though investors are satisfied with the feed-in tariffs, they remain dissatisfied with their duration.

The feed-in tariff scheme for energy from renewable sources in Kosovo is incomplete and tariffs are required to be set for other types of energy. According to the ERO officer, the methodology is being developed for the setting of tariffs for energy produced from photovoltaic panels (solar), and according to them at the beginning of 2014 the tariffs will be set.[32] Additionally, according to the ERO officer, "during the process of setting the feed-in tariff for energy produced from photovoltaic panels, the possible extension of the duration will be considered from the 10 year duration to a 15 year one".[33]

It is very important and necessary that feed-in tariffs for geothermal and solar energy are determined, as we know that Kosovo has an average insolation of 5.7 hours per day. Such an insolation is higher than that of Germany which has only 4.8 hours per day. Equally, other countries have similar insolation (or even lower) and have set feed-in tariffs.

Even though Kosovo does not have accurate figures related to geothermal capacities, statistics and maps of the countries of the region give important data that could be applicable also for Kosovo. As an example, in the map of geothermal sources in Serbia, Kosovo is present also.[34] Macedonia is considered to have potential to produce 210,000MWh (210GWh) of geothermal energy annually, while Serbia has potential for 800MW,[35] hence the potential that Kosovo has cannot be of a much lower level.

[31] Interview of INDEP with Sahit Vokshin, Director of the Company "Air Energy", Kosovo, July 2012.
[32] Afrim Ajvazi, Head of the Legal Department and Licensing, December 2013
[33] Ibid.
[34] Daniel M. Kammen, Maryam Mozafari and Daniel Prull, Sustainable Energy Options for Kosovo. An analysis of resource availability and cost, University of California, Berkeley, January 2012
[35] Daniel M. Kammen, Maryam Mozafari and Daniel Prull, Sustainable Energy Options for Kosovo. An analysis of resource availability and cost, University of California, Berkeley, January 2012

The level of feed-in tariffs is satisfactory but their duration is the lowest in the region and also amongst other countries. Whilst in the region the lowest figure is twelve years and the highest up to twenty years, Kosovo has applied a duration period of only ten years which does not guarantee sufficiently the investments in this field. Feed-in tariffs are a basis for the promotion of investments for the use of renewable energy sources and hence their duration is a key element for investors who are interested to invest.

7. Green Certificates

In addition to feed-in tariffs, another system which is continuously being used is that of green certificates. Green Certificates are legal titles which are traded in some EU countries and which are bought by polluting companies. Green certificates are titles that are sold by the producers of clean and environmental electrical energy, like wind and hydro energy.[36] This enables the creation of a green certificate market and also serves as a means of measuring the green energy that circulates in the power grid.

Green certificates are created by the producers of green energy. The producers receive a certificate for each determined unit of electrical energy produced from renewable energy sources and which has been put in the grid. The demand for green certificates can come from a number of sources. Demand can come from the government, from the consumers or other stakeholders in the electrical energy supply chain (generators, distributors, suppliers) through an obligation to generate, transmit, deliver or buy a certain amount of green certificates. The government itself can act as a buyer of green certificates, e.g. by ensuring a minimal price or through a tender procedure. In practice, the demand can come from a combination of these sources.

The system of green certificates enables the accurate calculation of clean energy which is consumed and that which enters the grid. One MW of electricity from RES has the value of one certificate. With green certificates the end consumer of electrical energy finances the technology of renewable energy sources through the purchase of certificates in the market.

[36] Business Insight, The Outlook for Green Certificate Markets in Europe, Taken from: http://www.globalbusinessinsights.com/content/rben0166m.pdf.

Certified producers of green electrical energy will have the right to sell a certificate in the certificates market for a unit of electrical energy produced, e.g. for one kWh. Certificates are therefore clear financial products which have been used to achieve a desired production from investments in RES.

The European Commission considers this system as an option for the reduction of distortions in the market due to various reasons related to state support schemes for energy from renewable sources in the internal market of electrical energy in development.

A mechanism of green certificates was planned to be implemented in the near future also in Kosovo[37], however concrete steps have not yet been taken in this regard. Amongst the countries which apply the system of green certificates are the United Kingdom, Holland, Belgium, Italy and Serbia. In Serbia, the new law on energy adopted on the 28th of July 2011 has foreseen that the system of green certificates be established and managed by the Serb Transmission System.[38] Even though in expansion, the system of green certificates is a relatively new system in Europe but significantly more used in America.

The system of green certificates is a means for promotion of investments and measurement of the amount of green energy used in final consumption. With the opening of the market for green certificates, their trading is also enabled. Consequently, investors would have a larger interest to invest in this field. As in most cases a green certificate has the value of one MW of clean energy, while the amount of green certificates in the market would illustrate the amount of green energy which is used in the final consumption. Such a mechanism has enabled countries to continuously calculate the level of achievement of the goals in the use of energy from renewable sources.

[37] Rexha, Blerim, Dragusha, Bedri, Feed-in Tariffs in Kosovo, Taken from: http://www.wseas.us/elibrary/conferences/2010/Cambridge/EE/EE-22.pdf.

[38] BDK- Attorneys at Law, (2012), Serbia: Energy & Natural Recourses, The New Law on Energy, Taken from: http://www.bdklegal.com/upload/documents/newsletter/2011/BDK_Newsletter_13_2011.pdf.

8. Conclusions

Kosovo has a satisfactory potential of renewable sources for the production of energy which makes the Kosovo market a good market for investments in the field of clean energy. As there are requirements for incentive measures, feed-in tariffs have been applied for this purpose in Kosovo also for a number of renewable energy sources. Studies exist which assess the potentials of Kosovo in the field of green energy as a competitor with the countries of the region. However, reliable studies from all the parties are still needed.

The Law on Energy of the Republic of Kosovo and the EU Directives has set a basis for regulating the legal aspect. In the Law on Energy the obligation of the transmission and distribution operators has been foreseen to put at disposal the full infrastructure in support of energy produced from renewable sources. However, the Law on Energy needs to be redrafted as soon as possible in order to be in conformity with Directive 2009/28/EC. Whereas the Energy Strategy (2009-2018) leaves aside the RES and puts particular focus on lignite. It is important for the review of the Energy Strategy to be done this year, as is also foreseen for it to be done every three years in order for it to include in more concrete terms the plans for RES.

By being a signatory party to the Energy Treaty, Kosovo has taken responsibility to implement all the documents and obligations from the EU in the field of energy. Consequently, Directive 2009/28/EC of the EU has become applicable also for Kosovo. Hence, Kosovo has fulfilled some of the requirements of this directive on incentive measures in the field of clean energy.

However, the MED, apart from setting indicative goals which give the impression of being set only to fulfil the legal obligation which stems from the Kosovo laws and the Energy Community Treaty, still does not have atlases for the whole territory of Kosovo which specify the real potentials for the production of energy from RES. In this way we would obtain analyses and reports from the government based on research which could be presented to potential investors.

The level of feed-in tariffs from the comparative description and the assessments of the investors are seen as satisfactory and they fulfil investor demands. However, feed-in tariffs have not been set for all types of energy from renewable sources for which Kosovo has development potentials. Additionally, the duration of contracts is very short and does not

guarantee investors that the cost of their investment will be sufficiently supported by the state institutions.

A significant problem appears to result from the hindrances for the development of RES which are related to existing authorisations that are not harmonised and which often are in conflict with the licensing procedures, which are mainly designed for large investment projects with conventional generating capacities, and are not suitable for RES.

Additionally, another problematic fact appears to be the involvement of many authorities in the administrative procedures of licensing, procedures which should be simplified and coordinated in order to process the RES applications. These procedures delay the development of a RES project and contribute to the withdrawal of foreign investors, and hence planning and serious efforts should be made towards a 'one-stop-shop' institution which would deal with all the administrative applications for RES projects. In Kosovo there are applications for licence and work permit obtainment, which remain in ERO files for 2 years now.

As a conclusion, the feed-in tariffs scheme in Kosovo is incomplete. The existing tariff policies and the investment environment are not very attractive for promoting investments in the field of energy production from renewable sources. A country which does not have a national plan on clean energy, which has the lowest duration and level of feed-in tariffs in the region, has complicated licencing procedures which are time consuming, and does not have a system of green certificates, cannot be an attractive place for investments by the investors. Therefore, as a result of these disadvantages and policy priorities in the field of energy, Kosovo appears to offer a not so favourable environment for investment.

9. Recommendations

Taking into account the evidence of the factual situation and the conclusions of this analysis, INDEP recommends changes to these policies and the undertaking of the following steps in the field of investment promotion in energy from renewable sources with particular attention to feed-in tariffs.

1. The Kosovo Energy Strategy should include alternative forms of energy like, wind energy, solar energy, biomass and geothermal energy.
2. The Energy Regulator Office (ERO) should review the decision on the setting of feed-in tariffs for all the renewable sources of energy and to increase their duration. The digressive tariff would be optional, insofar as the level of the tariff covers at least 15% of the cost of investment.
3. The Ministry of Economic Development (MED) should amend the Law on Energy in line with the European Union Directive 2009/28/EC.
4. The Ministry of Economic Development should conduct detail research for certain segments of renewable sources related to the general policy for promotion of foreign investments.
5. The Ministry of Economic Development in addition to developing plans, should determine in a detail manner the measures that it should undertake in order to enable the achievement of goals and the measurement of their achievement.
6. Exemptions to be established and reforms conducted by the Ministry of Economic Development, Ministry of Trade and Industry and other ministries for the promotion of investments in the facilities and installations of alternative sources.[39]
7. To consider the removal of the customs tax for the following products: solar panels, small wind and bioenergy turbines and other related equipment which help in the increase of individual and larger investments in RES. This will create a favourable market situation for the increase of energy efficiency, interest in investments, and the use of RES.
8. To establish a 'One-Stop-Shop' as part of the Ministry of Economic Development to handle all the administrative applications for RES projects. Such an idea was mentioned for a very long time by the former Minister of Economic Development[40], but no concrete action has been taken towards the realisation of this matter.
9. To consider the establishment of the system of green certificates in order to control the level of green energy which is consumed and to promote foreign investments.

[39] In some studies of the MEM, there were more than 70 locations identified for the construction of small HPPs which have an installed capacity of 140MW. The project of Zhur should continue and other forms to be promoted, like geothermal, wind, and solar energy, etc.

[40] Former Minister of Economic Development, Besim Beqaj. Now Minister of Finance in the Kosovo Government, May 2013.

Such a system would assist the improvement of investments and the establishment of a market of green certificates in Kosovo.

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