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Role of Renewable Energy
Sources and Efficiency on
Economic Development of
Municipalities

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#### **Foreword**

Energy sector in South-Eastern Europe is the key to regional economic growth, prosperity growth and at the same time to opening of the road towards the European Union, considering the fact that many investment opportunities are provided through natural resources.

Renewable energy sources are natural resources. As we know, nature (globe) is divided into states based on current territorial arrangements, which then are organized into municipalities. Municipalities have a very important role in organizing and using these sources in the best possible and non-harmful way, and subsequently they are entitled to the commercial profit from the use of those resources. In this case, Municipalities could develop economically through the use of renewable energy sources, while protecting the environment at the same time.

Use of renewable sources that are endless as municipality resources would enable investments, employment as well as municipality budget revenues.

In recent years, policies for promotion of renewable energy have become increasingly popular among municipalities in different parts of the world. This article reviews Kosovo's case. It argues that municipalities compared to other public and private sector stakeholders must have a key role in managing renewable energy sources by applying different successful models of the European Union.

In recent years, many municipalities in many European states have taken on a more active role in the field of energy, especially with regard to management of renewable energy sources in their territories. Further, some municipalities implemented pilot projects or energy islands, completely independent from national energy networks, entirely running on renewable energy. They do this for various reasons, such as protecting environment, strengthening regional economy and creating jobs.

Kosovo as a country with a small geographical territory has large reserves of lignite, but all Kosovo municipalities are rich in renewable energy sources such as Solar-, Wind- and Water-based energy. These need to be utilized by municipalities themselves, which have the potential to play a key role in managing renewable energy in Kosovo.

An active role of municipalities in green economy would bring investments, which in turn would translate into considerable profit for the community, human capacity building, construction of public facilities such as those for sports, culture and entertainment, etc., and in Kosovo's case, this would also bring encouragement for capital investments from diaspora, considering that Kosovo diaspora is familiar with this type of economic development in countries where they live.

### Draft Proposal of Energy Strategy 2013 - 2022

Energy Strategy 2013 – 2022¹ of the Republic of Kosovo, as a strategic and programmatic document addresses renewable energy sources (RES) and energy efficiency (EE) to a very small extent and not many details are provided.

The Strategy broadly mentions the achievements in development of required legal infrastructure, by-laws, regulations, incentives and actions related to RES and EE.

With regard to development of RES, the Energy Strategy 2013- 2022 only mentions decisions and Administrative Instructions issued by the Ministry for Economic Development (MED) as well as RES target indicators that are part of the National Action Plan on Renewable Energy Sources 2011-2022.

<sup>&</sup>lt;sup>1</sup> Energy Strategy of the Republic of Kosovo 2013 – 2022, the document can be found at: http://mzhe.rks-gov.net/repository/docs/SE - Shqip 26.12.pdf, lately checked on 12.06.2014.

The strategy broadly mentions the energy potential related to water-, biomass-, solar-, and geothermal-based energy and also lists needs' assessment for using useable waste.

Shortly, the strategy does not rely on the role and demands of municipalities, which should have a fundamental role in drafting process of the strategy, considering that municipalities will be affected by it. A proper strategy should have been based on the municipalities' energy concept as is the case in EU member states.

**Efficiency** – is an indicator of economic development of municipalities. Municipalities have an administrative role over all public premises that are located in their territories, including institutional facilities, schools, hospitals, kindergartens, correction facilities, etc., and they also play an important role in new constructions in the public and private sector. By increasing the comfort of citizens and budget savings, efficiency directly affects the economic development of a municipality.

# Kosovo's Obligations to the European Union (EU)

South-eastern Europe, including Kosovo, through establishment of Energy Community<sup>2</sup> is required to fulfil European directives, which put large challenges in front of market players.

Topics such as energy supply, network expansion, energy conservation, investments and development of projects for production of conventional energy and renewable energy, as well as implementation of requirements for liberalization are only one part of the current issues in Kosovo. One of the directives that Kosovo has to fulfil as a signatory of the Treaty is

Directive **2004/EG**, **2006/32/EG** and the latest directive **2012/27/EU**.<sup>3</sup>

Prevailing objective of these directives include fulfilling the **20/20/20** target, which means:

- 20% of total consumption comes from renewable energy
- 20% efficiency
- 20% reduction of environment pollution/ CO2 gases.

Through fair use of renewable energy sources and their protection, the following objectives can be met:

- economic development
- environment protection
- creation of new jobs
- decentralization of energy production
- stimulation of market competition
- acceleration of innovation development.

Considering the objectives the derive from these directives, it is unimaginable that municipalities will meet them without a clear understanding of energy, in particular Kosovo, which went through a pre-war and war period and did not have an institutional continuity so that it would be in possession of required meteorological and statistical data for its resources, etc., which other countries have, and which data to some extent will serve them for further development of the field. Therefore, Kosovo needs to accelerate implementation of measures that derive from those directives.

The latest EU Directive **2012/27/EU** envisions the role of municipalities in efficiency and opportunities for decentralized production of energy, and the directive

<sup>&</sup>lt;sup>2</sup>Energy Community, REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL. The document can be found at: <a href="http://ec.europa.eu/transport/modes/road/news/com(2014)-222\_en.pdf">http://ec.europa.eu/transport/modes/road/news/com(2014)-222\_en.pdf</a>, lately checked on 12.06.2014.

<sup>&</sup>lt;sup>3</sup> EU Energy Efficiency Directive (2012/27/EU), Guidebook for Strong Implementation, directive can be found at:

http://eedquidebook.energycoalition.eu/images/PDF/EE D.pdf , lately checked on 12.06.2014.

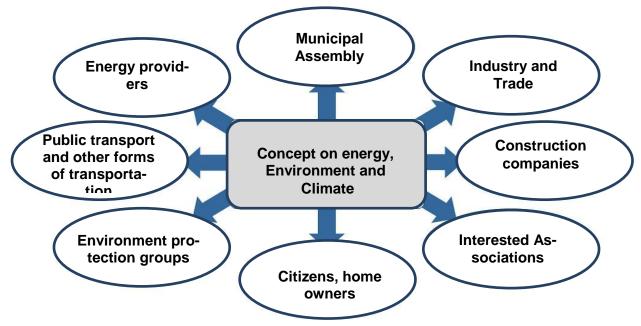
requires municipalities to develop their energy concepts within a certain timeframe.

## Concept on energy, efficiency, environment and climate<sup>4</sup>

The municipal concept for energy, environment, and climate would be stimulation for energy sector development and protection of environment within a municipality. It would define the action framework and the support for stakeholders in the field. The concept

## The concept would bring about the following results:

- Increasing municipal budget through taxes collected from projects
- Reducing energy cost through project implementation on energy efficiency (renovation and new construction of public and private premises)
- Optimum use of renewable energy sources



would also assist municipalities in understanding their current state and the path they need to take, as well as having control over current state of energy sector.

In other words, the concept as such is a strategy that would enable drafting short-, mid-, and long-term plans for energy and environment.

Basic principles for the concept would include objectives, responsibilities, inventory and management of municipal resources.

- Improving image, preparation for potential investors, opportunities to benefit from existing development funds
- Clean environment
- Increasing employment, capacity building of human resources in private sector and municipal administration
- Optimization of the chain of current values as well as creation of added values with chain effects
- Control over current state of energy, efficiency and environment.
- Protection of citizens from increase of electrical energy price
- Higher revenues for municipalities through taxes and fees of private operators of generation capacities (wind, solar, biomass, etc.)
- Stronger competition between municipalities.

http://www.bmub.bund.de/fileadmin/bmu-im-

<sup>&</sup>lt;sup>4</sup> 'The Energy Concept and its accelerated implementation', German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, 10.2011, article can be found at:

port/files/pdfs/allqemein/application/pdf/konzept topru nner\_en.pdf , lately checked on 12.06.2014.

On the other hand, side effects on local employment must be emphasized as a result of service and maintenance of decentralized generation capacities of energy and by creating local factories, young professionals and providers of services and supplier of raw materials, which would stimulate economic development. The energy concept would be developed by the stakeholders listed in the figure above.

In the case of Germany<sup>5</sup>, we will provide a graph below that shows the role of municipalities in energy sector.



The graph above clearly shows that during 2010 alone, there was considerable revenue for municipal budgets from renewable energy, in the amounts up to 10.5 billion Euros.

Below, we provide a practical example of costs and profit from a wind generator, which would be valid anywhere<sup>6</sup>.

1 wind generator					
Installed capacity	2,3 MW				
profits of electricity (MWh / a)	4830				
CO2 reduction (t / a)	3680				
financial flows					
Investment costs	2.831.875,00 €				
interest	623.808,00 €				
Installation costs	67.965,00 €				
Rental income / per month	679,65 €				
Rental Income	326.232,00 €				
Costs (maintenance / staff / security)	1.544.201,00 €				
Business tax (evaluation scale)	403.899,00 €				
Profit after tax	2.893.233,00 €				
Local company that operates + municipal	land				
The added value for municipalities	3.623.363,00 €				
The added value for the region	5.859.337,00 €				
Foreign company that operates + private land					
The added value for municipalities	282.729,00 €				
The added value for the region	608.961,00 €				

Table 2: Presentation of a practical example of cost and profit of a wind generator

# Biomass energy as a source of economic development of a municipality

All municipalities in Kosovo's territory have potential to produce biomass-based energy. Environment protection poses a good and almost sufficient source for thermic energy production for community needs. We can state that biomass today is the main source for production of thermic energy, but it is misused and maltreated, thus causing destruction of environment, which affects environment and climate.

As we already know, biomass-based energy is included in renewable energy sources and it is addressed with incentive fees. Regulations that would derive from a municipal concept would assist business community for generation of energy from biomass.

http://www.energy.gov.lk/pdf/me/ Introduction%20ab out%20IfaS%20%20By%20Dr%20Michael.pdf, lately checked on 12.06.2014.

<sup>&</sup>lt;sup>5</sup> The Institute for Applied Material Flow Management (IfaS), <a href="http://www.stoffstrom.org/en/">http://www.stoffstrom.org/en/</a>, lately checked on 12.06.2014.

<sup>&</sup>lt;sup>6</sup>Introduction of the Institute for applied Material Flow Management, Dr. Michael Knaus, 2013, article can be found at:

# But how could biomass used for economic development?

- Stimulating employment in companies for producing biomass from
  - → wood that lies in the forests and in the surrounding environment
  - → remains from wood industry processors
  - → agriculture (straw, remains from vineyards, etc.)
  - → fossil fuels
  - → remains of sewage after filtration process
  - → bio-gas (methane) of sheep farms
  - → biodiesel from growing agriculture products
- Stimulation of eventual employment in production and installation of efficient equipment for burning biomass
- Employment and generation of revenues from companies which would organize power-plants and network for using thermic energy by end users.
- Employment from waste collection, sorting and recycling

# Insight on renewable energy sources and their development

Renewable energy resources include all sources that are found naturally in the environment and which are constantly regenerated.

Renewable energy sources are experiencing a rapid growth of their development everywhere in the world and they are largely contributing to the growth of energy production.

These sources, besides being endless, they also don't have any negative impact on the environment since they don't emit gases or hazardous pollutants to human and animal life.

Electrical energy produced from renewable energy sources is otherwise called green energy or ecologically clean energy.

Renewable energy sources include the following:

- wind energy,
- solar energy,
- hydro-energy,
- biomass energy,
- geo-thermic energy,
- sea wave energy,
- ebb and flow energy,
- waste gas.

Depending on the technologies that are used, all above-mentioned sources may be used for heating, air-conditioning, generation of electrical energy, generation of biogas, etc.

Renewable sources are constantly playing a key role in their further use and development.

### Perspective of renewable energy sources

Currently, there is an enormous development of renewable energy sources taking place all around the world. Along with water- and biomass-based energy which have been used so far largely for production of electrical energy and heating, other sectors that are growing rapidly include those of wind, solar, and thermic energy, etc.

Some of the developed industrial states cover a considerable part of their supply with energy with diversification of sources, i.e. use of renewable energy that is water-, biomass-, solar, wind, and geo-thermal-based, etc.

According to Renewables Global Status Report 2013<sup>7</sup>, renewable energies in 2011 and 2012 brought about 19% of energy of end consumption, and contributed with 26% to energy supply.

<sup>&</sup>lt;sup>7</sup>Renewables Global Status Report, 2013, report can be found at:

http://www.ren21.net/portals/0/documents/resources/ gsr/2013/qsr2013 lowres.pdf, lately checked on 12.06.2014.

In our continent, the development trend of renewable energies is growing too. According to Eurostat<sup>8</sup>, participation of renewable energies in overall final consumption in EU member-states in 2011 (13%) grew for nearly 1% compared to 2010, which was only 12.1%.

part of the so-called Acquis<sup>9</sup> on renewable energies, which includes various Directives:

 Directive 2009/28/EC dated 23 April 2009 on stimulating the use of renewable energy sources,

Energy source	RES capacity distributed in years and expressed in MW							
	2013	2014	2015	2016	2017	2018	2019	2020
Photovoltaic energy	0	3	4	6	7	8	9	10
Solid biomass	0	2	4	6	8	10	12	14
Wind	1.35	31.35	70	90	110	130	140	150
Existing hydro-power- plants	46.21	46.21	46.21	46.21	46.21	46.21	46.21	46.21
New small hydro-power- plants	0	60	140	150	160	180	200	240
Zhur hydro-power-plant	0	0	0	0	305	305	305	305
Total capacity in MW	47.56	142.56	264.21	298.21	636.21	679.21	712.21	765.21

EU member states which in 2011 achieved the highest percentage of production of electrical energy from renewable sources are the following:

- Sweden with 46.8 %,
- Lithuania with 33.1 %,

The European Union aims to develop renewable energies further and it has adopted respective legislation.

- Directive 2003/30/EC dated 8 May 2003 on stimulating the use of bio-carburant or other renewable carburant in transportation,
- Directive 2001/77/EC dated 21 September 2001 on stimulating production of electrical energy from renewable sources in internal market of electrical energy.

<sup>&</sup>lt;sup>8</sup>Eurostat is the statistical office of the European Union situated in Luxembourg. Its task is to provide the European Union with statistics at European level that enable comparisons between countries and regions.

<sup>&</sup>lt;sup>9</sup> Energy Community Acquis, acquis related with energy can be found at: <a href="http://www.energy-communi-">http://www.energy-communi-</a>

ty.org/portal/page/portal/ENC\_HOME/ENERGY\_COMMU NITY/Legal/EU\_Legislation

No	River	Economically useable potential  MWh/year
1	Drini i Bardhë	554,00
2	Ibri	102,17
3	Morava e Binçës	8,75
4	Lepenci	16,53
Tota	il	681,45

The above-mentioned directives and all other EU directives apply also to EU non-member states, including Kosovo.

Therefore, each state that is a contracting party of the Energy Community Acquis is required to meet EU all Acquis requirements within a specific time, in this case, Acquis requirements on renewable energies and meeting target indicators.

Article 4 of Decision No. D/2012/04/MC – EnC of the Energy Community Ministerial Council envisions that required target for the Republic of Kosovo for generation of electrical energy from Renewable Energy Sources up to 2020 be 25% of final gross consumption<sup>10</sup>. Expressed in Megawatt and distributed in years, the Republic of Kosovo needs to diversify sources for electrical energy production and have available installed capacities as per the table below.

http://www.ren21.net/portals/0/documents/resources/ gsr/2013/gsr2013\_lowres.pdf , lately checked on 12.06.2014.

### Renewable Energies in Kosovo, Water Potential

For the moment, Kosovo does not have accurate measures of the hydro-energy potential, but we may state that Kosovo is not different from other countries in the region in this field. Western part of Kosovo has Hydro energy potential of River Drini i Bardhë and of other rivers. Technical-technological development for using hydro-power, which is advancing rapidly, would enable production of energy at any point where there is running water. This will be a great advantage for Kosovo.

According to current measurements, economically useable potential for producing hydro-power is presented in the table below.

#### Solar potential

Solar power in Kosovo is estimated between 1500 and 1650 kWh/m2 per year.

With approximately 278 sunny days, Kosovo may be considered as a country with clear advantages for using this source. Also, the intensity of sun-rays during these days is considered to be similar with countries which have started to install solar panels. Based on the geographic position and climate conditions in Kosovo, solar energy may be used to a considerable extent for heating sanitary water and for producing photovoltaic energy. According to the data from the Regulatory Energy Office of Kosovo, it is estimated that the potential for producing solar-based energy is about 1,100 kWh up to 1,250 kWh per m2 a year. While according to the Ministry of Economic Development, solar power in Kosovo is estimated to be between 1500 and 1650 kWh/m2 a year.

This would be the case if solar collector is located in an ideal position. Delays in approving incentive fees for solar-based electrical energy have disabled development of production of this type of energy, which is very important for economic development.

<sup>&</sup>lt;sup>10</sup>Renewables Global Status Report, 2013, Report can be found at:

### Wind potential

The Study "Renewable Energy as an opportunity for economic development of Kosovo" drafted by Evroenergie L.L.C. commissioned by "Gesellschaft für Internationale Zusammenarbeit – GIZ" was published in January 2013 and it shows a great potential for wind-based energy in Kosovo based on accurate and professional measurements according to standard requirements for investors. Overall potential of wind energy in Kosovo is about 328 MW.

No.	Project	Capacity in MW
1	Shtime 1	100
2	Shtime 2	27
3	Kitka,	30
4	Golesh(Wind	1.36
5	Nek Zatriq	30
6	Bajgore	50 (Messungen lau-
7	Skenderaj	50 (Messungen lau-
8	Budakova	40
	Total	328.36

Kosovo and the region do not possess a wind atlas, while one is being funded by Kreditanstalt für Wiederaufbau – KfW, which will be introduced during the second part of this year (2014).

#### Biomass potential

Biomass is a renewable energy source and it can be directly converted into energy during burning. Thus heating and electrical energy is generated through biomass. From the other hand, the most developed form of biomass conversion is fermentation in alcohol. Biogas obtained from this form of fermentation contains methane and carbon and thus they can be used as fuels. The advantage of using biomass pertains to, for example, waste recycling and agricultural waste, forestry remains and remains from wood industry, which leads to reducing energy imports.

The table below presents indicators of wood mass obtained from the Ministry of Agriculture, Forestry and Rural Development<sup>11</sup>.

	Volume (m3)			volume by forest composition (m3/ha)			
Status	exploitable	not exploitable	Total	conifers	mixed	timber	Total
extended	226 000	399 000	625 000	10.9	0.96	0.79	1.30
foot	556 000	555 000	1 111 000	20.3	5.55	1.3	2.31
Total	782 000	954 000	1 736 000	31.2	6.51	2.09	3.61

Table 5: Total volume of wood mass and quantity of wood per hectare (ha, m3)

#### Geothermic potential

Geothermic energy is energy that springs from earth and which does not emit gases that pollute environment. It is part if the renewable energy sources. In Kosovo, geothermic energy started to be used only during recent years, and the level of investments in this field is very low and limited mainly to private investments. Despite high initial cost that requires installation of a geothermic system, benefits exceed the costs in a longer run. Return of investment in installing a geothermic system is calculated at 4 to 5 years, depending on the installed capacity. According to a study conducted by the Coordination of Research policies with the Western Balkan Countries<sup>12</sup>, replacing electrical energy with the geothermic one would result with reducing heating costs for four times. If such a replacement would take place nationwide, then a considerable amount of electrical energy that is used for heating would be saved.

round Report Energy Kosovo 2012.pdf, lately checked on 12.06.2014.

<sup>&</sup>lt;sup>11</sup> National Forest Inventory of Kosovo, Ministry of Agriculture, Forestry and Rural Development, 2013. Report can be found at: <a href="http://www.mbpzhr-ks.net/documents/84090">http://www.mbpzhr-ks.net/documents/84090</a> Inventarizimi-Nacional-i-Pyjeve-Kosov%C3%AB-2012 web.pdf</a>, lately checked on 12.06.2014.

<sup>&</sup>lt;sup>12</sup> NATIONAL BACKGROUND REPORT ON ENERGY FOR KOSOVO, 2012. Article can be found at: <a href="http://wbc-in-co.net/object/document/9828/attach/0">http://wbc-in-co.net/object/document/9828/attach/0</a> National Backg

In conclusion, production of energy from renewable energy sources in sustainable ways is a social challenge that requires an evolution of national and international regulations (as is started with Directive RED 2009/28/CE)<sup>13</sup>, planning for urban and transport sectors, and change of individual styles of living and ethical consumption.

Legal basis for energy efficiency nationwide

Regarding primary and secondary legislation, Kosovo is in a very good situation compared to the region. Laws have been harmonized with EU directives.

Law 03/L-201 on Electrical Energy

Law 04/L-016 on Energy Efficiency

Law 03/L-116 on Central Heating

Law 04/L-110 on Construction

# On the other hand, suggestion of Energy Community in Vienna has been addressed:

Energy Strategy of the Republic of Kosovo 2009-2018

Sector	Energy Savings Potential (%)
Transport	10
Residential	10-35
Public	35-40
Service	10-30
Industry	5-25

<sup>13</sup> EU Renewable Energy Directive (RED), Directive 2009/28/EC on the promotion of the use of energy from renewable sources. Directive can be found at: <a href="http://dglassassociates.wordpress.com/2013/01/22/european-union-renewable-energy-directive/">http://dglassassociates.wordpress.com/2013/01/22/european-union-renewable-energy-directive/</a>, lately checked on 12.06.2014.

Kosovo's Energy Efficiency Plan 2010-2018

Heating Strategy of the Republic of Kosovo 2011-2018

Less CO2, more renewable energy sources, higher efficiency

# Role of efficiency in economic development of municipalities

Energy efficiency is an inseparable part of energy sector when it comes to economic development. Economic development of a country means economic development of municipalities. Therefore, the main burden for energy efficiency rests with municipalities. Given that energy efficiency is considered more and more each day as a global economic factor, we are witnessing that various and large financial institutions as well as local banks are investing more in the area. On overview of the region clearly shows the large potential of the region regarding energy efficiency. According to World Bank<sup>14</sup> regional energy intensity is 2.5 times higher than in the EU, while the potential of investments in energy efficiency is about 2.5 billion Euros. The largest potential pertains to public buildings with 35 to 40% capacity for energy saving.

Only governments of regional countries spend a little more than 400 million Euros for energy for buildings and other premises, including public lighting. Regarding financing for energy efficiency, there is an EU fund in the amount of 1.5 billion Euros for projects that could be used by municipalities themselves. These large amounts of money are great opportunities for municipalities, where they can apply for projects on energy efficiency and develop competencies in this area within the municipality. Considering the fact that a municipality may save up to 40% of the energy in public premises, we can state that the same municipality may use these funds for human capacity

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<sup>&</sup>lt;sup>14</sup> Energy Efficiency and Renewable Energy in the Western Balkans. Presentation held by Jas Singh in Conference: Energy Market South East Europe 2013 in Prishtina, organized by Evro-energie and it's partners, September 2013.

building which would subsequently affect the quality of services for citizens.

Municipalities as owners and operators of various public premises such as schools, family medicine centers, municipal administration buildings, public lighting, public transportation, etc., must consider energy efficiency as a key role for their economic development.

Energy loss in old premises and construction of new inefficient facilities, either public or private, are direct losses for the municipal budget, and family budgets respectively. The European Directive<sup>15</sup> requires states to establish efficiency agencies which would provide support to municipalities in drafting action plans for energy efficiency.

For the agency to be successful, an efficiency fund must be established, which would consist of resources from Kosovo budget, international financial institutions, taxes from businesses that deal with efficiency (licensing, certification, etc.) and from fines in cases of non-implementation of energy efficiency measures. In Kosovo's case, due to budget implications, establishment of such a fund is in contradiction to Kosovo's constitution. Due to this, there is an urgent need that respective constitutional bodies find a solution for this problem as soon as possible.

Since post-war period up to nowadays, there were audits, proposals and implementation of efficiency measures in Kosovo in public premises with funding from various international institutions. The role of municipalities in these investments has not even been forecasted. Undoubtedly, this has harmed municipalities due to low quality of implementation of efficiency measures in respective facilities and in employment of local staff.

http://eedguidebook.energycoalition.eu/images/PDF/EED.pdf , lately checked on 12.06.2014.

# Why does energy efficiency affect economic development of municipalities?

Implementation of energy efficiency measures in public and private premises produces chain effects. They include:

- Eventual employment on production of efficiency products
- Employment in installation of efficiency products
- Human capacity building in efficiency field
- Employment in municipal administration

#### **ESCO Company**

ESCO (Energy Service Company) is a company that provides energy services, including implementation of energy efficiency projects (as well as renewable energy projects). These companies develop, install and regulate funding of projects that are designed to increase energy efficiency.

Energy services include a wide array of activities such as:

- Energy audit and analysis,
- Energy management,
- Project development and implementation,
- Maintenance and operations,
- Monitoring and evaluation of savings,
- Property/facility management,
- Service provision (heating, lighting, etc.)

# Responsibilities for energy efficiency according to hierarchy in Kosovo

### -Ministry for Economic Development

 Preparation and monitoring of implementation of legislation in energy and mining, postal, telecommunication, information technology sectors as well as supervision of publicly-owned companies sector,

<sup>&</sup>lt;sup>15</sup>EU Energy Efficiency Directive (2012/27/EU), Guidebook for Strong Implementation. Guide book can be found at:

- Preparation and implementation of documents and strategies for energy and mining sector, as well as documents on energy balance according to applicable legislation,
- Preparation of energy efficiency and renewable energy sources policies as well as action plans for these two areas, in compliance with respective EU directives,
- Monitors energy systems,
- Cooperates in preparation and implementation of international agreements in energy, mining, postal, telecommunication and information technology sectors,
- Cooperates with the Ministry of Finance in function of developing a conducive environment for investments in the sectors under their responsibilities through fiscal and tax policies, etc.

### **Kosovo Energy Efficiency Energy**

- proposes policies on promotion of energy efficiency to the minister,
- develops and maintains a database on energy efficiency,
- develops a monitoring system on implementation of Kosovo's Plan for energy efficiency and meeting of target indicators for energy saving,
- proposes a Kosovo Plan on energy efficiency to the minister,
- prepares a Progress Report on implementation of Kosovo's Plan on energy efficiency,
- guides and supports municipalities for preparation of municipal plans on energy efficiency and on drafting their progress reports,

- promotes energy efficiency through awareness-raising campaigns,
- presents recommendations for necessary improvements of energy efficiency plans, to both municipal and national levels,
- cooperates with the ministry and other relevant institutions in implementation of energy efficiency plans,
- supports participation of stakeholders in undertaking initiatives for energy efficiency,
- proposes improvement and amending of regulatory and legal basis to the minister in the field of energy efficiency, in order to harmonize them with relevant European standards on energy efficiency,
- supports municipal offices for energy on issues that have to do with planning and promotion of energy efficiency and implementation of various programmes of energy efficiency at the municipal level,
- promotes informative and educative activities in the field of energy efficiency in cooperation with responsible ministries for energy, construction and education,
- Prepares annual work report for the minister.

#### **Municipal Offices for Energy Efficiency**

- Local economic development,
- Urban and rural planning,
- Implementation of construction regulations and standards for construction control,
- Local environment protection,
- Maintenance and provision of public services,
- Planning and implementation of measures for renovation of public and private premises of services and accommodation,

- Efficient use of energy,
- Improvement of energy efficiency in public transportation,
- Promotion of improvement of energy efficiency in industrial and agricultural industries,
- Development of efficient energy systems,
- Implementation of awareness-raising campaigns.

#### Recommendations

Based on what was stated above, we may conclude that renewable energies and energy efficiency could be main pillars of municipal budget. In Kosovo's case, unfortunately, there is no revenue to municipal budget nor anyone employed as a result of renewable energies and energy efficiency.

#### I recommend the following:

- urgently start with drafting municipal concepts that would have large influence in municipalities,
- beginning of drafting of a proper energy strategy, based on results of municipal concepts and giving up formal strategies, which negatively impact energy sector,
- development of legal and constitutional basis for establishment of the fund for renewable energy and efficiency development, in this case, the fund would consist of the state budget and opportunities would be created to attract other investments,
- funding a project that would create a database of renovated premises from efficiency funds that would serve for auditing, enabling comparison of these investments with regard to the quality of completed work.

The comparison would take place:

- in premises within a municipality building
- o among municipalities in Kosovo, and

 with a municipality in the region ( Macedonia).

Such a comparison would serve as a guide so that we don't experience other failures in investments.

#### About the author:

**Hamdi Malushaj** is a mechanical engineer- thermo energetic. He worked 18 years in the sector and then decided to continue working in this direction by specifying in the energy sector. He joined the energy sector and he is a managing director of Evroenergie L.L.C. when he is responsible for the corporate strategy, the profitable growth and operation of the company.

A further object of Mr. Malushaj is the performance of corresponding analyses in the fields of energy economy and of the energy market in Southeastern Europe. He worked as a project manager in three analyses "New value creation processes within the metal sector for the improvement of energy related technologies (RE & EE)", "The studies Best Practice Study for Customer Switching Processes" and "Renewable energy as an Opportunity for Economic Development in Kosovo" and in other studies conducted in Kosovo. He is also president of the Kosovo Renewable Energy Association.

Views expressed in the document are personal views of the author and do not necessarily represent those of Konrad Adenauer Foundation.

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