



POLICY

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Energy – A Practical Approach for the Benefit of Sustainable Economic Development in Kosovo

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This policy brief shall present an analysis of current state of affairs and up-to-date progress in the field of energy in Kosovo and its effects on sustainable economic development. In addition, it will provide concrete solutions and initiatives that will provide a great help to this area of special significance.

LULZIM SYLA

Kosovo Renewable Energy Association

ABBREVIATIONS

EBRD	European Bank for Reconstruction and Development
WB	World Bank
RES	Renewable Energy Sources
Covenant of Mayors	A European movement which includes local and regional authorities on a voluntary basis for the purposes of improving energy efficiency and the use of renewable energy sources
EE	Energy Efficiency
EREC	European Renewable Energy Council
ESCO	Specialised companies for designing and implementation of projects in the field of energy efficiency
EUROSTAT	European Statistics Agency
GWh	Gigawatt hour
IEA	International Energy Agency
IFC	International Finance Corporation Member of World Bank
EC	European Commission
KfW	German state bank for development
MGW	Megawatt
NALAS	Network of Associations of Local Authorities of South-East Europe
SME	Small and Medium Enterprise
SADC	Swiss Agency for Development and Cooperation

Foreword

The current policy brief covers particularly the energy issue in Republic of Kosovo which since the war was almost the key factor in economic development of the country.

Europe today is facing an enormous challenge called Energy, which involves many components that are closely related to it, like: industry, transportation, agriculture, education, healthcare, etc. Apart from the creation of preconditions for the development of a mechanism that would create higher security and long-term sustainability in production and supply of electrical energy, energy in itself is one of the primary factors in overall economic development of the European countries. Based on recent data from Eurostat, a rise in the global consumption of energy is forecasted to about 3% in 2013. Additionally, the production capacities of gas are foreseen to be expanded, while the demand for it is foreseen to be 4% higher than in 2012¹. An additional change will be the reduction in the price of oil as a result of the higher supply in the market than the demand for it.

According to the 2012 report "World Energy Outlook 2012" published by the International Energy Agency - IEA, from 2013 and until 2035 there are around 11.8 trillion dollars expected to be invested at global level in the area of energy efficiency, and which is expected to result into: 17.5 trillion in reduction of fuel bills, 50% reduction in the demand for energy at global level and about 1.3 trillion dollars of reduction in the development of new infrastructure for energy².

Whilst according to the most recent publication by EREC - "Re-thinking 2050", the European Union's vision is that in 2050 the supply of energy would be 100% from renewable energy sources.³

All the researches done with businesses in Kosovo so far show that energy is one of the key factors in improving competitiveness in the market when price of the energy is low, or as a key problem in energy shortages or reduction during winter season. Kosovo nowadays faces the need to clearly define development objectives in a long-term strategy that would result in realistic energy demand that would meet the needs of households, and industry for a sustain-

able development. This would also greatly support employment generation and overall economic development of the country.

We shall focus on current state of affairs regarding energy, past investments in this sector, current infrastructure, imports of energy, building new energy capabilities, renewal energy, energy efficiency, other current problems, etc.

This paper will focus more on providing solutions and proposals in the field of energy, and in particular on efficiency and renewable energy sources rather than on identification of problems or statistics

Energy and Kosovo

Summary

For the purposes of making a short summary without going into details of figures, Kosovo and in particular its governments since the end of the war in 1999 have spent together with foreign donors more than 1 billion euro in repairing the blocks of the Thermal Power Plants Kosova A & B and hundreds of millions for the repairs of the electrical energy distribution system reaching the end users, more than 300 million are the expenses for the purchase of generators and the required fuel for them by the citizens and businesses, and more than 500 million euro of fuel spent in order to compensate losses of energy which occur every year in our country. And lastly the import of electrical energy has incurred losses of more than 500 million euro in these 14 years.

Besides the above problems, political issues with Serbia persistently incurred financial harm as a result of abuse of distribution network by Serbia during the energy importation needs. Technical losses as a result of inherited weak distribution network in the country caused great financial harm greatly diminishing debt collection.

This is the negative balance of more than 2 billion losses that have been caused by the lack of a proper and sustainable strategy for energy. The damages caused and such delays in the implementation of the development of new capacities like the Thermal Power Plant Kosova e Re or C and on renewable energy sources, increase our dependency on import and pose a considerable risk in seriously damaging the industry, businesses and in general the economy of the country, as according to the World Bank the average damage caused to a business by the energy black-outs in Kosovo is about 2500 euro per month².

¹ Economist Intelligent Unit - The Economist

² IEA - International Energy Agency - World Energy Outlook - 2012

³ EREC - European Renewable Energy Council - http://www.erec.org/fileadmin/erec_docs/Documents/Publications/ReThinking2050_full%20version_final.pdf

Where we stand currently

In October 2012 the Republic of Kosovo has redefined the energy strategy in line with the requirements and directives of the EU and the European integration requirements. Kosovo is a member of the Energy Community. Additionally, the Republic of Kosovo aims to achieve the 20-20-20 goals which the European Union demands for the energy sector, which means firstly the reduction of CO2 emissions by 20%, secondly to increase by 20% the renewable energy sources in the final energy consumption, and to increase or improve by 20% the energy efficiency. While the mandatory goal of Kosovo for RES and EE for 2020 is 25%. In order to achieve these goals considerable commitment is required initially from the government, businesses, and from the civil society.

Legislation on Energy

Today Kosovo in legislative terms is far better than in previous years, and is now much closer to the completion of the legislation required by particular organizations within the European Union. The Republic of Kosovo has adopted some laws of special significance that pave the way towards creation of a mechanism which will establish the preconditions for the construction of new energy capacities, provide opportunities for foreign investment and above all create preconditions for sustainable economic development.

Voltage (kV)	Number of lines	Total length (km)
400	6	182
220	13	232
110	45	728
	Total:	1,142

Laws adopted:

- Law on Energy
- Law on Electricity
- Law on Energy Regulatory Office
- Law on Energy Efficiency
- Law on Natural Gas
- Law on Central Heating, and
- Law on Pressure Equipment

Besides the Energy Strategy and above laws, Kosovo also drafted supporting regulations on bio-fuels where according to Directive 2009/28/EC Kosovo shall include 10% bio-fuels as of 2020.

Energy Regulatory Office (ERO) has been established in June 2004 and regulates activities in energy sector in Kosovo, including electricity, central heating and gas, in line with obligations deriving from Energy Community Treaty. Kosovo marked remarkable progress also in the field of renewable and energy efficiency in finalizing required legislation in line with EC directives, thus paving the way towards meeting directives from the Energy Community Treaty and foreign investments in renewable and energy efficiency.

Energy Infrastructure

Kosovo Government has privatized energy distribution network (KEK) up to 35 kV, which since May this year is managed by its buyer with 100% of the shares and investment plan of 300 million Euros for next 10 years.

Based on data of the System, Transmission and Market Operator (KOSTT), energy infrastructure it manages and is responsible for is shown in Fig.1 below:

Besides the above, energy infrastructure in Kosovo this year will be augmented joint with construction of 400 kV capacity by Republic of Kosovo, Republic of Albania supported financially by German KfW Bank totalling 75.5 million Euros. This line will greatly facilitate energy exchange in the region.

Energy capacity from Renewable Energy Sources (MW)								
RES-EE (MW)	2013	2014	2015	2016	2017	2018	2019	2020
Photovoltaic energy		3	4	6	7	8	9	10
Solid biomass		2	4	6	8	10	12	14
Wind	1.35	31.35	70	90	110	130	140	150
Small existing hydro-plants	46.21	46.21	46.21	46.21	46.21	46.21	46.21	46.21
Small new hydro-plants		60	140	150	160	180	200	240
Zhur hydro-plant					305	305	305	305
TOTAL	47.56	142.56	264.21	298.21	636.21	679.21	712.21	765.21

Building new energy capacities

Construction of new 600 MW power plant is planned to start in 2015 with a decision of the Kosovo Government, supported by WB. The construction shall be completed in 2018. This new capacity will greatly stabilize energy supply to households and industry.

Current state of affairs regarding renewable energy sources and investment potential

Energy Regulatory Office (ERO) has set feed-in tariffs for generating capacities using new technology and new equipment. It has also defined primary sources of renewable energy used for energy generation accepted in support scheme and below table Table no.2. presents the installed capacity required for meeting indicative goals for consumption from renewable energy sources, defined by the Kosovo Ministry of Economic Development (MW)⁴

Applicable feed-in tariff on energy generated from renewable sources and accepted in support scheme is shown in fig. 3 below:

Primary source of renewable energy	(€/MWh)
<i>Hydro-plants (<10MW)</i>	<i>63.3</i>
<i>Wind</i>	<i>85.0</i>
<i>Solar energy</i>	<i>j/a</i>
<i>Biogas and Biomass</i>	<i>71.3</i>

Priority of the priorities

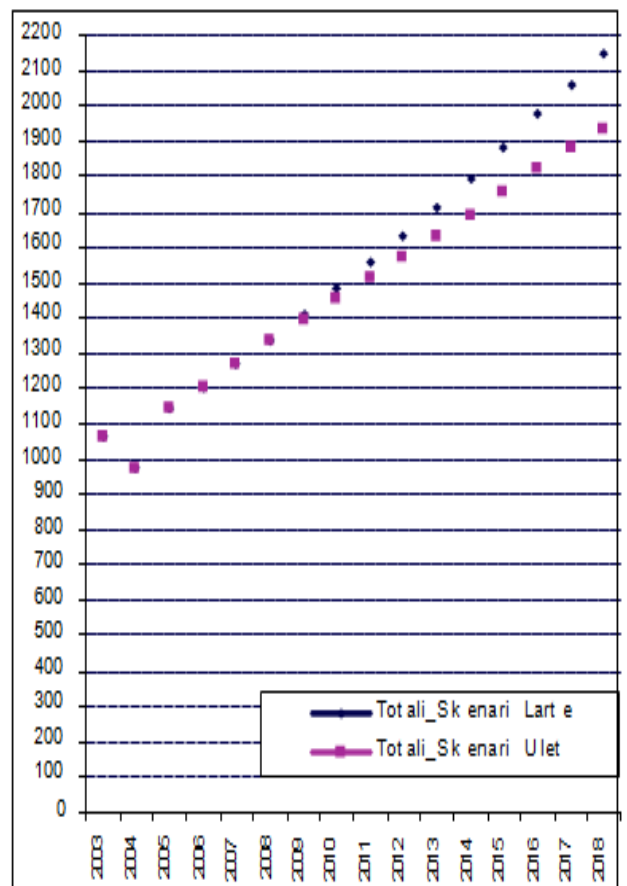
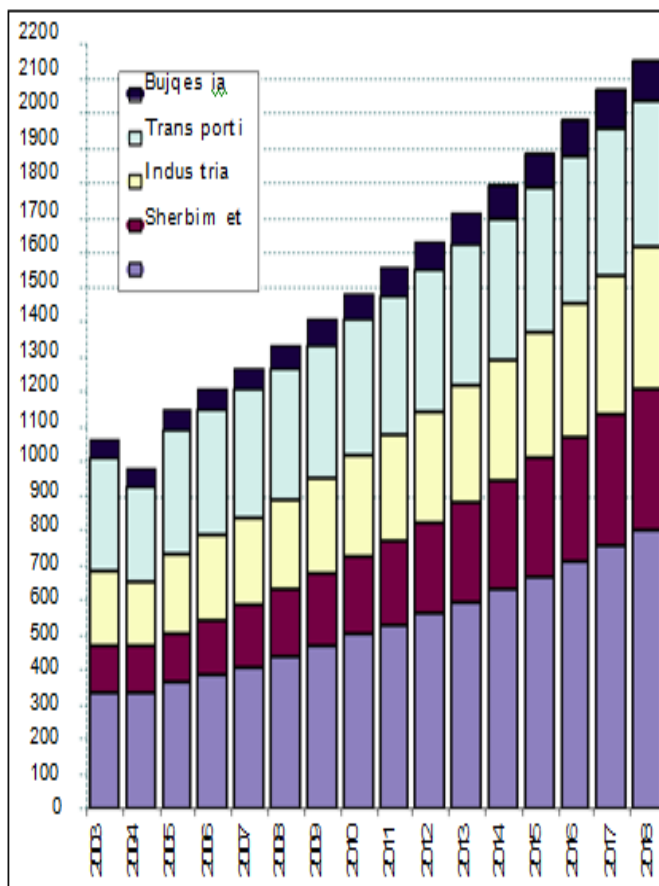
Even though in recent years there has been a lot of discussion in Kosovo about energy, without the ability to reach a qualitative understanding between the civil society, government and different lobbies from around the world, the priority of all priorities should be the proper and sustainable supply of citizens with electrical energy, while all other elements are secondary and resolvable.

⁴ Energy Regulatory Office

Forecast of demand and production of energy in relation to economic development

Based on the Energy Strategy three demand development scenarios have been foreseen in relation to the economic development of the country. According to the high demand scenario (HDS) for electrical energy, the consumption in 2018 is forecasted to be 7,431 GWh/year, and this is associated with the peak load of 1,671 MW⁵. This is closely related to the fact that the government has led a non-sustainable development for 15 years continuously and has considered it as a high development scenario, where the economic growth is forecasted between 3% to 5.2% of year to year economic growth, which is very low for ensuring sustainable economic development, and this appears more to be an adjustment with the consumption figures in relation to the production of energy rather than an accurate analysis on the growth trends of demand from households and the industry.

Charts 1 and 2 represent the demand forecasts for each sector and its total. In chart 1 it appears that energy demand for each economic sector will increase.



⁵ Energy Strategy of the Republic of Kosovo 2009-2018

Recommendations

In order to implement the energy strategy, the specification of projects that stem from this strategy is required. The drafting of these projects and their implementation requires a special financial support fund. The establishment of a development fund by the government for the promotion of products and services that have an effect on the development and application of projects in this segment. This fund should be used for incentivising research on development projects and encouraging innovation in the field of renewable energy.

Removal of taxes and subsidising of families and businesses for the production of renewable energy and efficiency

In order to encourage citizens and businesses to a degree to implement measures of energy efficiency and to produce energy from renewable sources, the customs duties and VAT have to be removed at least for some years in order to encourage the use and education on these measures, as so far the state budget has gained very little from this segment as these were virtually no import of such goods, and one of the reasons for this being the high prices. Products that will have a direct effect are: construction materials of high efficiency, photo voltage panels, and thermal panels for heating bath water, central heating with pellets, economic light-bulbs (compact fluorescent), energy compensators for industry, etc. The development practices of these projects are mainly done through cooperation with world organisations that support programmes for energy and efficiency like the EBRD, World Bank, IFC, or also other segments that support these projects which come out as projects from funds of the European Commission like: "Intelligent Energy Europe".

Education, training of new human resources in the energy sector

Even though Kosovo is evaluated to have a young population, it suffers from lack of proper education and human resource development for the labour market. The most recent report "Renewable Energy as an opportunity for Economic Development in Kosovo" prepared by GIZ and the Evro Energy company in Prishtina in 2013, presents interesting data and opportunities that can be used to generate employment if investment and urgent intervention is made in developing new engineers and technicians who would be ready to be active in the production industry of machine, electrical and electronic parts and related services for world energy leaders, EE and renewable energy. In this regard, as Kosovo's only opportunity for development is through activating its industry, developing new departments for energy, renewable energy and efficiency

as part of the University where the required curricula would also be prepared, and in addition to this, the same needs to be done in the vocational education schools by supplying them with laboratories for practical work, which would create conditions for our country to generate thousands of jobs that would provide services to these segments of the industry. In order to illustrate the poor situation in regards to human resources, specifically with engineers of profiles related to energy, electricity, electronics and machinery, we look at the situation in the Electro-technical Faculty where in absence of new human resources in the form of assistants and professors, there is a risk that within 5 years it will be closed as a department due to the fact that most of the professors are above 60 years of age. While on the other side we have the construction of the new thermal power plant "Kosova e re" which even though not having a detail analysis on how many qualified people it will require, in order to operate qualitatively it will need a minimum of 300 engineers as most of the processes are digitised, and Kosovo does not have these engineers, which means that they will have to be sourced from private businesses or brought in from other countries at a much higher cost. Additionally, the Machinery Faculty in the UP should take immediate measures to create capacities to establish new study programmes for EE and RES. The establishment of a fund for scientific and development research would create opportunity for new students and experts of the energy field to be involved in projects, as the demand for analysis in these fields is expanding in the world market.

Establishment of the Institute for Energy and Efficiency

This institute should be established by the University of Prishtina in cooperation with the Government of the country and would be in charge of developing energy and efficiency policies. Additionally, as part of this institution the National Council for Energy and Efficiency should be established, which would be in charge of coordinating projects and activities between ministries, municipalities and industry for the purpose of promoting the development of projects in the field of green developments which is closely related to the consumption of energy and its efficiency. This proposal related to the Council is known in Europe as the "Green Building Council".

Energy Auditors

Kosovo currently has 52 certified energy auditors. This number of auditors is not enough for the successful management of auditing of all the buildings of public institutions, let alone those in the private sector. As part of the development of new human resources for

energy and efficiency, in Kosovo there is a need for another 50 of such individuals when taking into consideration that in every municipality of Kosovo there should be a minimum of one officer for EE and RES who would develop municipal policy and implement that policy in coordination with the energy strategy of the country and the requirements of the EC.

Construction Law – Green Buildings and Auditing

The implementation of the project for the certification of buildings as efficient (construction materials, heating, cooling and electrical energy systems – auditing of energy in buildings) which as an incentive measure would include fiscal relief depending on the level of implementation. This would need to be integrated in the Construction Law through the determination of levels of certification starting from the minimal quotes which are accurately determined and up to the more advanced determined levels at the measure of 100% efficient construction, referring to the National Action Plan for Efficiency and Energy in coordination with the Ministry of Environment and Spatial Planning, by providing an incentive that through the determination of quotes to create the mechanism for tax relief and payments for constructions and renovations. The level of implementation of these quotes should be incentivised also in the payment of fees for construction permits. The implementation of these measures would create a very good chain of growing companies which are in the business of products and services for EE and RES.

Potential for business development in the sector of energy and efficiency in Kosovo

Even though in recent years in Kosovo a number of research efforts have been made in the field of energy production, and in particular RES energy, again the need for creating wind, solar and hydro atlases is necessary and would create potential for attracting foreign investments. The most recent research undertaken by Evro Energie⁶ in cooperation with GIZ on the potentials of renewable energy presents interesting data for RES, especially in the field of wind energy, where according to a study made in Kosovo by a Swiss company the capacity of energy production in Kosovo from wind is around 300 MGW⁷. This study presents some very good findings on the encouragement of competitive abilities in the business sector, which is an issue we will focus on more directly. Kosovo has been suffering for many years from the lack of industrial production and as a result a low amount of exports, both of which are primary preconditions for higher level generation of employment in Kosovo. The report suggests that in the

event of investments in the field of wind energy, hundreds of new jobs could be generated in this sector and would involve a considerable number of companies that provide related services and thus creating added value: companies for the production of various electrical, mechanical, electronic and other equipment and components, followed by companies that conduct operations, planning, installations and maintenance. Additionally, this report suggests that by 2030 new windmills are foreseen to be constructed and that 872 thousand GWh of electrical energy will be produced from wind. This would generate about 794 thousand jobs in wind energy production, and for this reason if Kosovo will know how to use the potential that will be developed in the following years around the world, it would be able to create thousands of additional jobs by involving again the above mentioned companies.

Furthermore, research in the field of energy efficiency is very useful in order to derive further evaluations related to the design of support programmes in the field of energy efficiency both in households and industry.

Particular importance is paid to the membership of Kosovo in world organizations which are involved in the field of renewable energy, environmental protection, increase of efficiency, etc.

The preparation of projects for the reduction of the use of vehicles in traffic which create a high level of pollution, by eliminating old vehicles and their replacement through the implementation of projects in the field of public transport.

Cooperation with the business community

In order to implement successfully the energy strategy, the Government of Kosovo, including the ministries, municipalities and other agencies involved in energy, EE and RES, all need to cooperate closely with the business community through business associations which are directly involved in energy, EE and RES, like SHERK⁸ and AKEREE⁹ which have a large number of businesses and experts of relevant fields and which would be of tremendous help in the successful implementation of the strategy by providing their professional and practical contribution.

Establishment of ESCO companies

An ESCO (Energy Service Company) is a business that develops, installs and arranges the financing for projects which are designed to improve energy efficiency. ESCOs in general operate as project developers for a

⁶ *Renewable Energy as an opportunity for economic development in Kosovo, 2012, prepared by Evro Energie and GIZ*
⁷ *NEK UMWELTECHNIK AG, Switzerland, 2012*

⁸ *SHERK – Kosovo Association for Renewable Energy*
⁹ *AKEREE – Kosovo Association for Renewable Energy Sources and Energy Efficiency*

wide range of tasks and take into consideration the risk on performance which is related to the project.

Services that they provide are:

- Development, design and arrangement of financing for energy efficiency projects
- Installation and maintenance of equipment involved in the energy efficiency projects
- Measurement, monitoring and verification of energy savings
- Assumption (taking over) of risk that a project will result in energy savings

The support in the establishment of these companies is required through the agreements that originated from the **Energy Community**. These companies would have an effect on the proper flow of processes and designing of reports on energy consumption and in particular in the implementation of energy efficiency at the level of families and businesses-industry.

European Energy Week

This is a project that is supported every year by the European Union for the promotion of energy, renewable energy sources, and education of citizens, businesses and government in the efficient use of energy and reduction of CO₂ gas emissions. This project would have an extraordinarily large effect if it would be organised in Kosovo also starting from next year 2014. If we are interested and are determined, even though we are not members of the EU, I believe that their support would not be missing in organising this activity and which would have multiple effects, starting from the planting of new trees, organising of educational activities in primary and secondary schools, organizing of activities in energy savings, etc.

Energy at the municipal level

Changes and developments in the recent years in the energy sector and in environmental protection should make the municipalities more aware on the obligations and requirements that stem from the implementation of efficiency measures through renewable energy sources. This change should start from the Municipal building itself, starting from the replacement of the heating and cooling systems, as most of these are diesel powered, followed by office lighting, and to continue with other buildings which are under municipal administration like schools, clinics, kindergartens, etc. For the implementation and a better exchange of project development practices at the municipal level, it would be very important for municipalities of Kosovo to become members of the **Covenant of Mayors** which is a European initiative for the inclusion of local and regional authorities on a voluntary basis in projects for the improvement of energy efficiency and the use of renew-

able energy sources in their territory. Additionally, it is of utmost importance to work in the direction of becoming independent and eliminating the direct effects of electrical energy supply from the centre. Furthermore, one of the largest networks in the Southeast Europe with which the municipalities of Kosovo should cooperate in the exchange of good practices for the implementation of efficiency measures is NALAS-i¹⁰.

Irrespective of the fact that we are not obliged by the EU to fulfil the quotas of "20-20-20", 20% reduction in the emission of CO₂ gases, 20% increase in the efficiency of use of energy and 20% in the development of new capacities in renewable energy by 2020, but rather it being as a recommendation, we should ourselves analyse the relation between benefits, health of citizens and other benefits and costs which come as a result of implementing these projects, specifically the quotas in clean energy. In order to have an effect in implementation the preparation of public awareness raising materials should also be foreseen.

International funds for energy and efficiency

In order to implement the above mentioned recommendations and projects, be it projects in the field of households, SMEs, establishment of ESCO companies, municipalities or also activities in the public sector, it is necessary that we in coordination with the legislation on energy and efficiency work together with relevant institutions in the preparation of such projects which stem from the laws that we have created, and to request funding for the development of these projects from international funds like: Green for Growth, Open Regional Fund, IPA, FEEI, etc., supported by different donors like: USAID, SIDA, GIZ, KFW, WB, EBRD, UN-ECE, SADC, etc. Even though we are not members of the European Union, we should insist more actively to be part of the EU funds through the preparation of ambitious projects, in particular for energy and efficiency.

Conclusion

The aim of this paper was to summaries some important elements in the field of energy, EE and RES which should be undertaken as actions by central and local institutions in Kosovo, and which would result in the improvement of the situation in general, in the field of energy, in all the sectors of the economy, and in the improvement of awareness on the importance of giving consideration to some problems that we should not forget in the upcoming years, as they could come back as a boomerang in planning, development and implementation of the energy strategy at a national level. In particular the development of capacities and preliminary planning of proper human resources for every sector

¹⁰ NALAS- is a network of association of local authorities in Southeast Europe.



would significantly facilitate the drafting and implementation of projects that are related to the energy sector.

Currently, in the European Union, energy is considered to be one of the main pillars of sustainable economic

development of the EU itself, therefore the coordination of activities and development of projects in harmony with the EC directives will help us considerably in gaining benefit from this development in the achievement of the preset goals that would bring us closer to the EU.

The views expressed in the paper are the author's personal points of view and they do not necessarily represent the views of the Konrad-Adenauer-Stiftung.

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