INTERIM REPORT

ENERGY STATISTICS IN THE ENERGY COMMUNITY:

BENCHMARKING OF ENERGY STATISTICS SYSTEM, ASSESSMENTS OF ADMINISTRATIVE CAPACITY AND RESOURCES AND DRAFTING ROAD MAP ON ENERGY COMMUNITY LEVEL

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Attention to:

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BENCHMARKING OF ENERGY STATISTICS SYSTEMS,
ASSESSMENTS OF ADMINISTRATIVE CAPACITY AND RESOURCES
AND DRAFTING ROAD MAP ON THE ENERGY COMMUNITY LEVEL

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SERBIA

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Legislative and Institutional framework

Capacity building, experts and financial support

Review of the methodology and technical aspects of the collecting, elaboration and processing data for the creation of the energy balance

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References

COMMON PLATFORM, BENCHMARKING OF THE ACTION PLAN AND PRELIMINARY CONCLUSION

Institutional framework, legislative and organisation of the energy statistics

Energy statistics, energy balances, reporting to the IEA/EUROSTAT

Monthly statistics, energy prices, energy indicators

Training

Further activities

LITERATURE
INTRODUCTION
Unified approach for the energy statistic activities is need for the various reasons. Such approach help policy makers in process of the decision making, reduce workload on administrations during the collection and supplying data, reduce the need for organizations to explain differences between different data sets, help general public to understand energy situation of their own country as well as other countries.

Detailed, complete, timely and reliable statistics are essential to monitor the energy situation at a country level as well as at a regional revel. Energy statistics, in the Contracting Parties and Observers, are of the key importance to their economy and represent the basis for the sound and transparent policy decisions.

The key objectives of the Study: Energy Statistics in Energy Community are to obtain assessment of the:

- current status of energy statistics;
- required measures and resources needed to streamline the efforts to harmonize energy statistics with the rules and procedures applicable for energy statistics in OECD and EU countries, including the transmission of the data to International Energy Agency and EUROSTAT and publication thereof.

These objectives are relevant for the implementation of the Treaty in the Contracting Parties and for Observers.

In order to reach the goals described above, Energy institute Hrvoje Požar has develop particular methodology in order to reach targets defined by Energy Community Secretariat. The targets are:

- to assess the legal framework for energy statistics, reporting systems and produced energy data against benchmarking with agreed common platform, from the sources made available from ECS, Beneficiaries and other relevant available sources such as publications of the IEA, EUROSTAT and other sources of the official energy statistics, as well as from field missions to relevant institutions of each Beneficiary, and when necessary to check and verify findings from other sources (including statistic offices, ministries, agencies and/or other entities involved in monitoring and forecasting energy data); the main objective of this is to check and verify findings and assessments presented in the Stocktaking report, as well as in the submitted Questionnaires by the CPs and in their Action plans;
- to review the Action Plans and identify gaps in either data collection and procedures and methodologies applied compared to the EUROSTAT and EIA requirements/benchmarks;
- to assist in developing the Action Plans for the Observers who are lagging behind in the process;
- recommend amendments and changes in the Action Plan of a Beneficiary, depending on assessment of actual capacity of each Beneficiary to establish a reporting system, conduct adequate surveys and compile and aggregate data in order to enable synchronization and harmonization of time schedules for specific activities;
- to define additional tasks and activities required to overcome identified gaps for being in compliance with the EUROSTAT/EIA reporting requirements per Beneficiary, to estimate technical, financial and human resources needed to overcome them and to set priorities for further action;

- based on the identified requirements, gaps and recommendations, to design and organize a practical “hands-on” training course for energy statistics officials from Beneficiaries where such gaps are identified, using available systems and actual energy data for the year 2009;

- to prepare Road Map on the Energy Community level which would include:
  - list of activities and measures to be conducted by the Beneficiaries;
  - coordinated time schedule for implementation of activities and measures for each Beneficiary and for the Energy Community;
  - necessary resources with specification of available and lacking resources;
  - necessary support and assistance common for more or all the Beneficiaries;
  - requirements for individual support and assistance for particular Beneficiary.

According to the requirements of this project, EIHP has prepared very detailed timetable of the activities, particularly important for the development of this Interim report and sixt week after the signing of the contract EIHP perform the Activity A and Activity B:

**Activity A** has included preparation of the detailed development of the assessment methodology, based on all existing and available sources from the ECS, Beneficiaries and other relevant institutions. In order to meet all expectations and requirements from the assignment EIHP initiated Kick – off meeting with Energy Community immediately after the contract is awarded. All information from the meeting and from the available data was used for the preparation of the field visits to particular Beneficiary.

The focus of the **Activity B** was the field visits to the relevant institutions in the Contracting Parties. The mission is organised to all Contracting Parties: Albania, Bosnia and Herzegovina, Croatia, Former Yugoslav Republic of Macedonia, Moldova, Montenegro, Serbia and UNIMK.

On the side of the Observes, only Georgia expressed interest in participating in the project. Because of the lack of the time, the mission was postponed for the July. Meanwhile, the good communication with Georgia was established and necessary needed information were exchanged.

The visits was organized in a way to firstly address those countries that are lagging behind the process in order to catch up with the common time schedules for the creation and update of the Action Plans.

Methodology and concept of the field visits are organized on the base of the analysis of the existing common platform and submitte Action Plans. The visits was prepared for each Beneficiary individually. The visits addressed mostly the relevant responsible institutions that participate in:
– developing of the reporting system and providing of energy statistics following the UNCE/IEA/EUROSTAT concept on the yearly basis,

– development of the annual energy balances based on the data presented in the prescribed five unified IEA/EUROSTAT questionnaires;

– building of the institutional monitor framework.

After completion of the field visits, detailed analysis of each Beneficiary was performed and some preliminary recommendations were drafted in order to establish a reporting system, to conduct adequate analysis and surveys and compile and aggregate data in order to enable synchronization and harmonization of the specific activities. Particular task was assigned to the identification of the additional requirements in order to overcome identified gaps regarding compliance with the EUROSTAT/IEA reporting requirements and to identify the legal, financial and human resources needed to overcome them. In the second paragraph of this Interim report methodological concept for the analysis of each Beneficiary was described, while third paragraph present short assessment of the field visions as well as main significances needed for the further development of the project.

In the framework of this activity EIHP developed preliminary recommendations for Beneficiaries to improve a level of administrative capacity in terms of number of staff and its knowledge, in order to match their needs for sound and reliable energy statistics in accordance with common platform of Energy Community. Also, EIHP has developed a recommendation of formal legal basis for collecting, compiling, submission, processing and publishing energy statistics. Results of this activity are used as suggestion for the eventual improvement of the Action plans in order to achieve required level of statistical capacity as defined as a common platform, in terms of scope and quality.

EIHP made review of reporting of the energy prices for electricity and gas and of the availability of the energy indicators, as defined in EUROSTAT/IEA methodology: import dependency, energy intensity of economy, energy efficiency per consumption sector, share of energy from renewable sources in total energy consumption, share of biofuels in total fuel consumption of transport, combined heat and power generation and efficiency thereof, implicit tax rate on energy.

In the following Activity C EIHP will work more on the detailed identification of the missing statistics as insufficient coverage (per products, primary sources, conversion, consumption, aggregation level, reporting units), quality of available data, lacking historical data, cross checking, compilation, submission and presentation and will results with proposal of the implementation the new measures.

This Report brings also some preliminary conclusion about possible content of the educational workshop which will be held in the Paris in the November.

Energy Community Secretariat has provide relevant documentation on energy statistics for each Beneficiary, but EIHP has for the purpose of the more detailed approach embedded lot or own information, experiences and contacts obtained during the realization of the various energy projects on the area of the Energy Community, specially in Albania, Bosnia and Herzegovina, Kosovo, Macedonia, Croatia.
METHODOLOGICAL CONCEPT
In order to promptly evaluate the collection of the energy data in energy statistics as well as quality and timing of the reporting EIHP has prepared the uniform approach for the analysis of the Action Plans of the Beneficiaries. Targets of the Action Plan were grouped in the five main categories.

**Legislation, institutional framework and organization of the energy statistics**

This segment analyzes in details the existing legislative framework, institution included in energy statistics and organization of the collection of data, elaboration and preparation of the reports.

**Development of the reporting system, energy balances and questionnaires for IEA**

For the purpose of this analysis EIHP prepared the list of question which was analyzed during the meeting.

- Which energy forms (primary – fossil and renewable, and transformed) are produced in the country
- How institution(s) collect data about energy forms production? (data for the years 2008 and 2009?)
- How institution(s) collect data about import and export of energy forms? (data for the years 2008 and 2009?)
- Does and how institution(s) collect data for stocks at beginning and end of the year (stock changes)? (data for the years 2008 and 2009?)
- Do and how institution(s) (collect) data for marine bunkers? (data for the years 2008 and 2009?)
- Which energy transformation plants exist in the country?
- Does and how institution(s) collect data for input energy? (data for the years 2008 and 2009?)
- Does and how institution(s) collect data for production (output energy)? (data for the years 2008 and 2009?)
- Does and how institution(s) collect data for own use in the energy transformation plants? (data for the years 2008 and 2009?)
- Does institution(s) have or collect data for losses in energy transportation and distribution (especially for electricity, district heat and natural gas)? (data for the years 2008 and 2009?)
- Which energy forms (fossil and renewable) are used for final energy consumption? (data for the years 2008 and 2009?)
- How institution(s) collect data for energy forms consumption in different industrial branches? (data for the years 2008 and 2009?)
- How institution(s) collect data for energy forms consumption in different means of transport? (data for the years 2008 and 2009?)
- Does institution(s) have any data for agriculture (Fuels consumed by users classified as agriculture, hunting and forestry)? (data for the years 2008 and 2009?)
• Does institution(s) have any data for fishing (Fuels delivered for inland, coastal and deep-sea fishing)? (data for the years 2008 and 2009?)
• Does institution(s) have any data for households (electricity, natural gas, district heat, and eventually other energy forms)? (data for the years 2008 and 2009?)
• Does institution(s) have any data for service sector (fuels consumed by business and offices in the public and private sectors)? (data for the years 2008 and 2009?)
• Data for energy forms and non-energy forms used in non-energy purposes?

Contracting parties are asking to provide all the available energy statistics data as well as questionnaires they submit to the energy companies in order to make review of the quality of the data collected. It is suggested to send this information first to the Consultant in order to make an additional analysis and make suggestions to the Beneficiaries. After the interview contracting parties are ask to prepare all available data collected for the year 2009 and 2008 for the Workshop in November in order to reconstruct balance and initiate/improve the data which are submitted to the IEA/EUROSTAT.

Monthly energy statistics

EIHP used the same approach in explanation and analysis of the monthly energy statistics as described in directives.

Monthly collection of energy data: reported period, frequency, deadline and transmission modalities are described in Annex C of the EC Directive 1099/2008. Monthly questionnaire (M-3) consists of three monthly processes:
- MOS (Monthly Oil and Natural Gas Statistics)
- Monthly Coal
- Monthly Electricity

Collection and treatment of monthly data on oil and natural gas, solid fuels and electricity are prepared three month after the reference month (M-3). MOS questionnaire is an IEA questionnaire, whereas other two (Monthly Coal and Monthly Electricity are purely EUROSTAT questionnaires.

Monthly questionnaire (M-1) consists of three further monthly separated processes split by energy carrier and titled accordingly: JODI (Joint Oil Data Initiative), SEGgas (short gas), SEGelectricity (Short electricity).

These questionnaires are set for collection and treatment of a small set of key monthly data on natural gas, oil and electricity after the reference month (M-1)

Energy prices

The liberalisation of the gas and electricity markets had affected the data collection of prices and applied methodology has been outdated. In 2002 EUROSTAT introduced the idea of setting up a Task Force that would study possible improvements for data collection and methodology. The outcome of this Task Force was a proposal for a new methodology that was tested parallel with the data collection in January 2005. The new methodology was adopted in June 2007 and was entered into force in January 2008.


The price statistics is used, among the others, to monitor the functioning of the liberalised and liberalising energy markets. Statistics collected and published assess the effectiveness of competition in electricity and gas markets.

At present, the degree of transparency varies from one energy source and one Member State or one Community region to another, thus calling into question the achievement of an internal energy market.

The concept EUROSTAT price reports and publications are based on the system of standard customers introduced for major industrial electricity users that ensure that transparency is not an obstacle to confidentiality.

By Directive, all Member State shell takes the steps necessary to ensure that undertakings that supply gas or electricity to industrial end-users, communicate to the Statistical Office in the European Communities.

Particular Annexes of the Directive concerned describe the methodological concepts for the collection and compilation gas and electricity prices for the industrial end-users.

The three levels of prices are to be provided for the gas: prices excluding taxes and levies, prices excluding the VAT and other recoverable taxes, the prices including all taxes, levies and VAT.

Gas prices are surveyed for the following categories:

- **Households:**
  - **D1** (small): annual consumption lower than 20 GJ
  - **D2** (medium): annual consumption between 20 and 200 GJ
  - **D3** (large): annual consumption larger than 200 GJ

- **Industry:**
  - **I1**: annual consumption lower than 1000 GJ
  - **I2**: annual consumption between 1000 and 10 000 GJ
  - **I3**: annual consumption between 10 000 and 100 000 GJ
  - **I4**: annual consumption between 100 000 and 1 000 000 GJ
  - **I5**: annual consumption between 1 000 000 and 4 000 000 GJ
  - **I6**: annual consumption above 4 000 000 GJ

Electricity prices are surveyed for the following categories:

- **Households:**
  - **Da**: annual consumption lower than 1 000 kWh
  - **Db**: annual consumption between 1 000 kWh and 2 500 kWh
  - **Dc**: annual consumption between 2 500 kWh and 5 000 kWh
  - **Dd**: annual consumption between 5 000 kWh and 15 000 kWh
  - **De**: annual consumption larger than 15 000 kWh
Industry:
- **Ia**: annual consumption lower than 20 MWh
- **Ib**: annual consumption between 20 and 500 MWh
- **Ic**: annual consumption between 500 and 2,000 MWh
- **Id**: annual consumption between 2,000 and 20,000 MWh
- **Ie**: annual consumption between 20,000 and 70,000 MWh
- **If**: annual consumption between 70,000 and 150,000 MWh
- **Ig**: annual consumption above 150,000 MWh

EUROSTAT provides model questionnaires to all data providers that cover the above-mentioned sectors. Member states must ensure that a representative share of national market is covered by the surveys.

The competition indicators for the liberalized gas and electricity market are compiled on the basis of two EUROSTAT questionnaires. These are the *Questionnaire on indicator to monitor progress in the electricity market* and *Questionnaire on indicator to monitor progress in the gas market* which are send once every year to the Member States.

In the framework of this particular issue of the Study special analysis related to the implementation of the relevant provisions of the EU Directive 2008/92 on energy prices was conducted. On the base of the steps presented in the Action plan development of the present institutional framework for the compilation of the EUROSTAT Questionnaire will be monitor for each Beneficiary and in the case of the existence of the reporting procedure the methodology and the relevance of the reported data will be checked.

**Energy indicators**

Development of the reporting system to ensure the monitoring of energy related to the energy indicators, as defined by the EUROSTAT / IEA methodology, will as minimum contain:
- Import dependency,
- Energy intensity of the economy,
- Energy efficiency per consumption sector;
- Share of energy from renewable sources in total energy consumption
- Share of biofuels in total fuel consumption of transport
- Combined heat and power generation and efficiency thereof,
- Implicit tax on energy

The baseline indicators do not coincide with the Market indicators, which are defined in the ECRB document: *Regulator’s 2009 National Report: List of Market Data Indicators.*

This document contains the structure (indicators and definitions) of the final questionnaire of the indicators. Such questionnaire contain the very detailed list of the information related to the general regulatory issues, report on unbundling
requirements on the network companies, description of the wholesale market for generation and trade, description of the retail market for the electricity and for the gas.

The basic energy indicators as defined by EUROSTAT / IEA methodology can be calculated without significant efforts, using energy balance report and report about national macro economy indicators. Consultant recommends beneficiaries who do not report energy indicators to obavežu institution responsible for energy balance development to spread their activities and to put the additional effort to the development of the energy indicators too. When spreading list of indicators, for example as defined in the Regulator’s List of Market Data Indicators it is very important to make relation with the other institutions who report the similar data in order to avoid overlapping and double efforts.

It is also important to mentioned that structural energy indicators are based on the annual data presentations, like: market share of the largest generator in the electricity market, energy intensity of economy, share of renewable energy, while euro-indicators present monthly key economic indicators: suppliers/imports, key energy prices, electricity consumption.

Benchmarking of the energy system

The benchmarking and comparison of the energy statistics system was developed using the documentation which was deliver to the EIHP as well as using results achieved during the on site mission to the Beneficiaries.
ALBANIA
According to the plan of the project activities Energy institute Hrvoje Požar organized its first field mission to Albania, Tirana. The meeting with representatives from Ministry of Economy, Trade and Energy and National Agency for Natural Resources was held on the 11th May 2010 in Ministry’s premises.

During the meeting Albanian Action plan was very analyzed using the list of detailed questions prepared by Energy institute Hrvoje Požar. The main issues of the meeting addressed following topics: Institutional organization for developing of the energy statistics and energy balance, Legislative framework, Experts and building capacities, Financial support, Existing methodology for collection and elaboration of the data and developing of the energy balance, Development of the reporting system

The meeting resulted with valuable clarification and improvement of the Action plan’s activities in order to achieve the target.

The following persons were presented on the meeting:

**Ministry of Economy, Trade and Energy (METE)**

Mr. Agim BREGASI

Mrs. Enkeleda BEGO

**National Agency for National Resources (AKBN)**

Mrs. Alma SARACI

Mrs. Erideta BASHI

Mrs. Irena ZEBI

**Energy institute Hrvoje Požar (EIHP)**

Mr. Branko VUK

Mr. Damir PEŠUT

Mrs. Alenka KINDERMAN LONČAREVIĆ

**Legislative and Institutional framework**

In Albania there are several laws which address and help developing of the energy statistics and energy balance.

The Low on statistics (7687, date 05.02.2004.) is relevant for the energy statistics and define methodological concept of the gathering, systematization and analyses of detailed data which concern different areas. INSTAT provides and systematizes general and detailed data on different area and published them in its own publication formats. INSTAT not have any obligation related to the gathering of the energy data.

The Petroleum Law define the rules on maintaining and management of the emergency stock of oil, gas and their products, the petroleum agreement on information and data given by operators of refining, transportation and trade of oil, gas and their byproducts and time schedules for data submission.

Energy Efficiency Law (2003) clearly define the procedure of the reporting of the energy data for the purpose of the supporting, development and monitoring of the national energy efficiency program. As defined in the Law, fuel and electric suppliers are obliged to submit every sixth months, reports on amount of amount of energy supplied to the customers. Consumers who consume more energy then it is defined by the Law needs to report the data on their energy consumption for the last year. All data should be filled according to the format requested by AKBN. Consumers whose annual consumption of any type of energy is lower then defined level are obliged to submit their actual energy consumption only if requested. For household, agriculture and transport sectors the AKBN should undertake survey for collection data on energy consumption. The Council of Ministers should adopt a regulation on the content and manner of submitting data report by fuels and energy suppliers and energy consumers.

There is no legislation which defines the methodology and procedure for the development of the energy balance. At the moment the Law on Energy is under preparation and it will define energy balance obligation format.

Council of Ministers brought relevant decree and decisions defining the roles and responsibilities of Institute of Statistics (INSTAT) and National Agency for Natural Resources (AKBN of NANR).

This decree of the Council of Ministries obliged Albanian National Agency of Natural Resources (AKBN) to prepare energy database and to submit the yearly energy balance. AKBN prepare energy database in supply and demand side, transformation process, losses and compiles energy balance annually. AKBN makes the reports focusing in trends for a period time horizon and using these data in different studies for energy planning.

The main problem of the Decree is that it does not oblige the other institution, companies of enterprises to submit and present their data and AKBN has the most difficulties with private sector, and depends on their will to participate and compile the questionnaires submitted by AKBN. AKBN developed own methodology for primary data collection. 1

The following important institution is The Regulatory Agency (ERE) provides information on prices per products and per sector.

Comments:

There is need for the changes of the existing Laws or development of the new in order to nominate AKBN as a carrier of the energy balance development as well as to define

1 U izvještaju Energy in Western Balkan stoji da INSTAT and Energy Efficiency Office dijele odgovornosti prema prikupljanju i obradi statističkih podataka kao i da pripremaju upitnike za sektor usluga i industrije
the obligations of the suppliers and particular consumer branches to submit reports to the AKBN on the supply and consumption of the energy, by sources and commodities.

Capacity building, experts and financial support

In AKBN three experts are available for the development of the energy balance, collection and reporting the data. They have lot of experiences in the field of collection and elaboration of the energy statistics data. The experts in AKBN are familiar with IEA / EUROSTAT methodology and questionnaires but they express the need for the additional capacity building dedicated to the particular issues of the energy balance development (e.g. energy transformation, marine bunkers, how to monitor cross checking).

Review of the methodology and technical aspects of the collecting, elaboration and processing data for the creation of the energy balance

Following energy flow of the energy sources and the concept of the creation of the energy balance the following aspect of the collection, elaboration and processing of the data according to the energy flows were identified.

- PRODUCTION

Production of the coal is focused mainly at the state owned Memaliaj mine and in three small mines in Korca which are privately owned. The coal is limited to metallurgy and cement industries. Ministry of Economy, Trade and Energy (METE) collect the data on the coal production from the mines. AKBN provide licenses for the mining with obligation to submit (monthly/yearly?) data on coal production.

During the recent 15 years period there has not been significant improvement on recovery rates of crude oil on existing oil fields and Albp petrol and Canadian company – Bankers Petroleum Albania works on the development of new recovery wells at existing Patos-Marinza oil field.

The production of natural gas significantly decline during the last years and today is very limited.

Fuel wood and biomass have a large potential. Ex-National Agency of Energy, Ministry of Environment, Forestry and Water Administration monitored and collected data about wood management, but the problem of the extensive and non controlled cuts lead to the needs for the estimation of the wood production. There is no evidence on the biomass production, e.g. pellets, wood chips, etc.

AKBN estimate the solar energy by monitoring and gathering solar collectors and heaters distribution and sales from the producers and on the base of the data on import.

There is no wind power utilization, waste in energy utilization and geothermal energy.

Under the preparation is The Law on biofuels and Proposal for the new thermal power plan using the biomass?

- IMPORT AND EXPORT
Import and export of electricity is under the obligation of the KESH. It reported to the AKBN the annual imports and exports of electricity.

The importers of the oil products are private companies. There are about 20 companies; among them the largest amount import 6 companies. According to the Petroleum Law these companies are obliged to report to the AKBN the imports of oil products. By the same Law they are obliged to report the export quantities also.

- **STOCK CHANGES AND BUNKERS:**

  There is no data about marine bunkers. Sea and internal navigation is estimated by calculating of the number of ships, etc.

- **ENERGY TRANSFORMATION:**

  Albania's energy system relies mainly on three large hydropower plans connected to the high-voltage grid. KESH owns and operates all plants expect a few small hydropower plant which are now under private ownership. There is only one thermal power units, diesel.

  There is no district heating in Albania.

  Albania’s two refineries process domestic (and imported) crude oil. According to the Petroleum Law the refineries are obliged to submit the operating data to the METE. AKBN noticed problem related to the accurate and timely collection of data on all oil flows and products. Crude oil is not the only input to a refinery, refinery feedstock, additives and oxygenates and other hydrocarbons are also used. It is complicated to identify feedstock and production of different products and AKBN has problem with provision of such data.

- **ENERGY CONSUMPTION:**

  AKBN provides questionnaires for **bigger industry consumers** through e-mail contacts, implementing the Energy Efficiency Law and obligation to report the data on consumption.

  **Transport sector** is estimated on the base of the data from the Ministry of transport and some data from INSTAT that provides related to the numbers of different type of vehicles in Albania.

  Energy consumption in **households** is estimated using the several sources of information. KESH deliver the data about electricity consumption.

  LPG for households and industry is obtained from the Ministry of Economy.

  Some years before AKBN organized the survey for industry and residential sector but it has not succeeded to realize the survey. The fuel wood, extra light fuel oil and heavy fuel oil are the most problematic energy sources which should be identify and at the present there is no the approved methodology for their collection.

  As in the household sector the similar situation is in the **service sector**. Electricity is obtained from KESH. AKBN stress the need for the improvement of the analysis of the service sector by recognizing and dividing the sector according to the particular sub-sectors.

  Sector of agriculture distinguish fishery from other consumption. The oil product consumption is obtained on the base of number of ships, mostly private ones.
• CONCLUSIONS:

AKBN express interest in creation of the uniform questionnaires related to gathering, processing and collection of statistical data. This could be of particular importance for the analysis of the energy efficiency and providing benchmark analysis among the countries concerned. National Energy Efficiency Plan is based on the energy balance so precision and reliability of the data can significantly improve the achievement of the desired targets.

According to the analysis of the energy system and energy statistic data availability described above EIHP concluded that there is real possibility to develop energy balance according unified questionnaire according to the IEA/EUROSTAT methodology. Albanian energy system is rather simple system and it is in the process of the planned fast development. Urgent reconstruction of the existing data can improve the presentation of the energy balance. METE and AKBN are advised to start the preparation of the all energy data for the year 2008 and 2009 which could be used on Training in October in order to create energy balance and eventually clarify some misunderstandings. EIHP will before Training review all collected data and according to the needs it will ask for some additional data and modification of existing information.

Production of the monthly energy statistics report pursuant to unified UNECE/IEA/EUROSTAT methodology and developing of the reporting system compliant with UNECE/IEA/EUROSTAT

The Ministry and AKBN do not collect, compile and publish monthly energy reports.

Developing of the reporting system to ensure the transparency of electricity and gas prices and production of the periodic report on gas and electricity prices and submission to the ECRB

The Regulatory Agency provides reports on energy prices. It is not verified yet if they publish the prices in accordance with EU Directive on procedure to improve transparency of gas and electricity prices charged to industrial and household end-users – 2008/92/EC.

Developing of the reporting system to ensure the monitoring of the energy related sustainable development indicators.

The Ministry and AKBN do not publish the energy indicators.
BOSNIA AND HERZEGOVINA
Field mission

According to the project activities plan Energy institute Hrvoje Požar visited Ministry of Foreign Trade and Economic Relation, BiH, in Sarajevo. The meeting was held with representatives from Office’s division for the statistics for industry, energy and construction and was held on the 25th May 2010 in Sarajevo, with beginning in at 11 am. Participant from other relevant institution were presented on the meeting: Ministry of Industry, Energy and Mining of RS, Institute of Statistics of RS, Federal Office of Statistics, Agency for Statistics of Bosnia and Herzegovina.

During the meeting the BiH Action plan and topics related to the development of the reporting system for energy statistics and energy balances according to the unified approach as defined by IEA/EUROSTAT, institutional organization for developing of the energy statistics and energy balance, legislative framework, experts and building capacities, financial support, reporting of the energy prices and energy indicators methodology was analyzed. Agenda of the meeting was prepared on the base of the list of detailed questions defined by Energy institute Hrvoje Požar.

The meeting resulted with very valuable discussion about relations and future activities between entity’s Statistical Offices and Agency for statistics. The following persons were presented on the meeting in MOFTER in Sarajevo:

**BiH Ministry of Foreign Trade and Economic Relations**
Mrs. Mubera BIČAKČIĆ
Mrs. Sanja KAPETINA
Mr. Vedran KAPOR

**Ministry of Industry, Energy and Mining (MIEM)**
Mrs. Milan JANKOVIĆ

**Institute of Statistics of RS (RZS)**
Mrs. Rada LIPOVČIĆ

**Federal Office of Statistics**
Mrs. Nusreta IMAMOVIĆ - KALJANAC
Mrs. Amela VESKOVIĆ

**Agency of Statistics of Bosnia and Herzegovina**
Mrs. Korajčević ŠEVALA
Mrs. Dženita Babić
Mrs. Nermina POZDERAC

**Energy institute Hrvoje Požar (EIHP)**
Mr. Branko VUK
Mrs. Alenka KINDERMAN LONČAREVIĆ

This report is not based only on the information on the meeting and on the documentation received for as the basis for this project. For the purpose of analyzing situation in Bosnia and Herzegovina previous activities of EIHP realized through project *Energy sector study in BiH* and *UNDP project* are used. In the framework of the mentioned project lot of relevant institution were contacted and lot of valuable information were collected and processed into energy balances 2000 – 2005. So, Consultant can express that it completely fulfill the obligation and expectations in the case of Bosnia Herzegovina related with the project Energy statistics in Energy Community.

**Legislative and Institutional framework**

*Law on statistics* of Bosnia and Herzegovina establishes the legislative framework for the organization, production and dissemination of statistics in Bosnia and Herzegovina. Agreement on the application of unique methodologies and standards was adopted by all three statistical institutions. Competent authority in Bosnia and Herzegovina responsible for organizing, producing and disseminating statistics is Agency for Statistics of Bosnia and Herzegovina. Competent authorities in Entities are Institute of Statistics of RS and Federal Statistical Office in FBIH. According to the *Law* each entity collect, process and transmit data to the Agency within the time specified statistical data which Agency determines necessary for Statistics of Bosnia and Herzegovina. Entities statistical offices collect and process statistics of Bosnia and Herzegovina applying the standards and practice issued by Agency and transmit the data in accordance with the Agency’s requirement. These are in accordance with the Agency’s requirements.

Energy statistics in BiH is new statistical branches which started to develop within the project *The Development of the sustainable statistical system in Bosnia and Herzegovina* and resulted with several educational workshops managed by SIDA - Swedish International Development Agency. The basic goal of the project was to establish energy statistics in BiH according to the EU and international standards.

At the end of 2008 the harmonized questionnaires for data collection on production, transmission and distribution of electricity were designed and adopted by all three statistical institutions.

**Capacity building, experts and financial support**

In *Statistical Office of RS* only one person is available for the development of the energy balance, collection and reporting the data. The person have lot of experiences in the field of collection and elaboration of the energy statistics data and is familiar with IEA / EUROSTAT methodology and questionnaires. *Statistical Office of RS* expresses the need for the additional capacity building dedicated to the particular issues of the energy balance development. The main barriers in for the expansions of the activity in the future are the lack of the financial resources and consequently with that the lack of human resources. The similar situation is in the Federal Statistical Office and in Agency for statistic in Bosnia and Herzegovina where only two person work on energy statistics.
Review of the methodology and technical aspects of the collecting, elaboration and processing data for the creation of the energy balance

Following energy system and flow of the energy sources, the concept of the creation of the energy balance, the following aspect of the collection, elaboration and processing of the data according to the energy flows were identified.

- **PRODUCTION**

Federal Statistical Office and Institute of Statistics of RS have own questionnaires for the collection of the data about coal production. Each questionnaire has a very good structure of the questions particularly for the balance for the brown coal and lignite. Some changes can be suggested, particular part can be simplified and some questions should be more precise. The main objection to the questionnaire is directed to the questions about coal manufacturing. Coal manufacturing belongs to completely different activity and it should be analyzed with completely different type of questions.

**Fuel wood** is significant primary energy source and estimations on the production of the wood harvesting from the public forests in the official reports are usually smaller than real quantities are used. During the project Energy sector study in BiH survey on energy consumption in households, services and industry were conducted and result showed more realistic consumption. This results were used in development of the energy balances.

With same questionnaire the produces are asked to report the trade of the coal and wood. The trade is divided according to the types of the buyers in order to identify more precisely the flow of energy.

- **IMPORT AND EXPORT**

*Indirect Taxation Authority of Bosnia and Herzegovina (Uprava za indirektno oporezivanje BiH)* within the taxing procedure has available reports and tables about export and import of all energy commodities, and particularly for energies which can not be found in any other official documentation. This refers to some commodities of oil derivatives and biomass.

Other data about oil product import and export are obtained from the refineries in Bosanski Brod and Modriča. Import and export of the hard coal and coke report coke oven plant in Lukavac.

BH Gas reports imports of the natural gas. Import and export of the electricity can be obtained from the NOS and Elektroprenos. In Bosnia and Herzegovina it is very important to provide analysis for the exchange of the electricity and gas among the Entities. The data about this matter exists but they should be harmonizes.

- **STOCK CHANGES AND BUNKERS**

Stock changes are submitted in the questionnaires submitted by energy producers, suppliers and distributors.

Also, refineries from Bosanski Brod and Modriča are obliged to report information on the sock at the beginning of the year and at the end of the year.
ENERGY TRANSFORMATION:
Consumption of the crude oil, oil product and additives and their assortments are estimated on the base of the reports from the refineries: Bosanski Brod and Modriča. The refineries report the energy transformation (consumption, production and self-consumption) according to the questionnaires based on the IEA/EUROSTAT methodology. It is important to follow energy flows between refineries and define the quantities which refinery Bosanski Brod deliver to the Modriča.

Electricity is analysed very detailed. Both Statistical Offices collect data about electricity with very detailed questionnaires and both offices produce electricity energy balances. These balances as mentioned above do not contain the import from another entity. The objection to the electricity balance of Federation is that it does not report the transition losses only the distribution losses. The report on consumption in energy sector should consist of the following consumptions: mining facilities, hydro electric power plants, thermal power plants, industrial power plants, coke oven plant and in public heating plants.

Statistical offices deliver the questionnaires to the public heating plants and collect the data about fuel consumption, self-consumption and production of the heat energy and energy delivered to the particular group of consumers. The questionnaires are very well designed and are harmonized with IEA/EUROSTAT formats. The only missing component is division of the heat delivered to the industries according to the industry branches.

In Banovići exist the manufacturing of the brickets. Coal producers report in their questionnaires the self consumption of the coal.

There is one coke oven plant in Bosnia and Herzegovina and this specific factory belongs to the transformation group.

ENERGY CONSUMPTION:
Statistic offices of BiH submit the questionnaires to the industry sector partially harmonized with IEA questionnaire. The main problem in the presentation of the heat energy and the fact that it is not clearly identify the source of the energy and structure of the fuel used for heat energy production.

BH Gas report the natural gas consumption of the larger producers: Mittal Steel Zenica, Grijanje Zenica, IGM Viskoko and others. Also it can report delivering quantities of the natural gas to the distribution companies as well as losses in transport gas network. These questionnaires report all energy commodities used in industry sectors.

Partially, Transport sector is estimated on the base of the data collected with the questionnaire which is conducted for the road transport. The questionnaire provides data of good quality but some components missing: division into unleaded motor gasoline and leaded motor gasoline.

Energy consumption in households is estimated using the several sources of information. The main information comes from the Living Standard Measurement Survey, which among other analyses energy consumption. Statistical Office put efforts into improvement of the questions related to the energy in order to create more precise questions on yearly energy consumption.

Survey in agriculture and it consist the questions about energy consumption for agriculture entrepreneurs and agriculture associations and it collect data from agriculture and forestry.
All data obtained from the questionnaires are compared with the reports which submit various traders of the natural gas, petroleum products, merchants of solid fossils fuels and others.

**CONCLUSIONS:**

The main problem in the process of creating report on energy statistics and energy balances is separation of the all data between Entities. This activity requires lot of efforts especially when defining import and export of electricity in Entities. However each Electric Power Company operates on area which belongs to one Entity and has own electricity balance. So, data about import and export are known and should be compared and harmonized between three companies. Evaluation of the import and export of the electricity in Entities should be checked and compared with the data from NOS and ELEKTROPRENOS. Also, BH Gas should report the import of the gas to the Federation and to RS, and additionally report the gas delivered to the large consumers, distribution companies and losses.

It is suggested to use the data from survey in 2005 about the fuel wood production and consumption with modification in accordance with yeas and energy balances development unless the conduction of the new survey.

Additional improvement of the energy balance development can be reached by analyzing and submitting of the additional questions to the thermal power plant: consumption of the brown coal and lignite according to the source of origin (mine), calorific value of the brown coal and lignite, stock at the beginning of the year and stock at the end of the year and coal consumption in each TE.

The questionnaires submitted to the public plant should include the question about stock at the beginning and at the end of the year.

The coke oven should report the data on fuel import according to the fuel origin, stock exchanges, coke production, coke gas production and coal tar production with information about calorific value of particular component, stock exchanges, consumption in entities and others in order to be harmonize with IEA/EUROSTAT methodology.

In transport sector, the similar structure of consumption as for road transport should be collected for the railway transport, city transport, air transport, river transport and pipeline transport.

Questions for the agriculture sector are partially harmonized with IEA/EUROSTAT methodology and should be improved.

**Production of the monthly energy statistics report pursuant to unified UNECE/IEA/EUROSTAT methodology and developing of the reporting system compliant with UNECE/IEA/EUROSTAT**

Statistical offices of Bosnia and Herzegovina did not prepare the plan for monthly energy statistic reporting. The only requirement in BiH Action plan is technical assistance.
Developing of the reporting system to ensure the transparency of electricity and gas prices and production of the periodic report on gas and electricity prices and submission to the ECRB

No submission of the report at this moment about gas and electricity prices according to the Directive.

Developing of the reporting system to ensure the monitoring of the energy related sustainable development indicators.

There is need for defining methodology for calculating the SD indicators and responsible institution.
Field mission

According to the project activities plan Energy institute Hrvoje Požar visited Central Burro of Statistics in Republic Croatia. The meeting was held with representatives from Office’s Division for the industry and energy. The meeting was held 6th June 2010 in Zagreb.

During the meeting Energy institute Hrvoje Požar and representatives from Burro discussed about the procedures for the monthly energy statistics and energy pricing reporting.

The meeting resulted with very valuable discussion about relations and future activities between EIHP and DZS. The following persons were presented on the meeting in MOFTER in Sarajevo:

Central Bureau of Statistics
Mr. Mustafa ELEZOVIC

Energy institute Hrvoje Požar (EIHP)
Mr. Branko VUK
Mrs. Alenka KINDERMAN LONČAREVIĆ

Legislative and Institutional framework

Act on official statistics (OJ no 103/03), Ordinance of Energy Balance (OJ no. 33/03), Energy Act (OJ no. 68/01) are the legislative framework for the energy statistics. Additional, secondary laws are Annual implementation plan and Statistical standards.

Central Bureau of Statistics is State institution responsible for independent statistical work according to the legislative framework. Ministry of Economy, Labor and Entrepreneurship is responsible for the preparation of the energy balance.

Energy institute Hrvoje Požar is nominated by the Ministry of Economy, Labor and Entrepreneurship to collect, compile and elaborate all energy statistic data and to develop realized energy balances for the Croatia. On the base of the gathered data EIHP compile questionnaires for the IEA and EUROSTAT.

Capacity building, experts and financial support

In Central Burro of Statistics two persons are available for the following activities: organization, conduction and elaboration of the survey on energy consumption in industry sector, monthly energy statistics and price reporting.

All other activity related to the energy balance development, preparation and submission of the reports to the IEA / EUROSTAT and energy indicators is in responsibility of the Energy institute Hrvoje Požar.
At the moment and according to the present quality of the data, there is not need for additional support in the terms of the capacity building.

**Review of the methodology and technical aspects of the collecting, elaboration and processing data for the creation of the energy balance**

Energy balance of Republic of Croatia for the previous year prepare Energy institute Hrvoje Požar using the data from the Central Bureau of Statistics, Custom duties, HEP, Industry of oil and from other oil companies, distribution of the natural gas, public plan, trade and from large energy consumes.

For each of the mentioned energy subject, EIHP and DZS has prepare particular questionnaires which is custom to the characteristics of the subject and to the needs of the energy balance. All questionnaires provide solid ground for the development of the energy balance.

Energy balance is compatible with IEA/EUROSTAT standards so Energy institute Hrvoje Požar provides reports in time and requests as defined by these institution: (questionnaire: Oil, Gas, Electricity and heat, Coal and Renewable).

Croatian energy balance need improvement in analysis of the final energy consumption by implementing additional on site surveys for particular consumption categories as well as by introduction of the new questions and correction of the existing which use Central Burro of Statistics.

**Production of the monthly energy statistics report pursuant to unified UNECE/IEA/EUROSTAT methodology and developing of the reporting system compliant with UNECE/IEA/EUROSTAT**

Central Bureau of Statistics of Republic of Croatia according to the methodology described with Directive 2008/92/EC prepares monthly energy statistics report for IEA/EUROSTAT.

**Developing of the reporting system to ensure the transparency of electricity and gas prices and production of the periodic report on gas and electricity prices and submission to the ECRB**

Central Bureau of Statistics of Republic of Croatia according to the methodology described with Directive 2008/92/EC prepares yearly and half-yearly reports for the EUROSTAT.

**Developing of the reporting system to ensure the monitoring of the energy related sustainable development indicators.**

Croatia reports the energy indicators within the publication Energy in Croatia and they are calculated in the framework of the development of the energy balance.
FYRM
Field mission

According to the project activities plan Energy institute Hrvoje Požar visited State statistical office of Republic of Macedonia. The meeting was held on the 12th May 2010 in Skopje, with beginning in at 9 am.

The main goal of the meeting was to analyze institutional and legislative framework as well as current situation regarding to the energy statistic system. During the meeting the topics related Action plan were analyzed: development of the reporting system for energy statistics and energy balances according to the unified approach as defined by IEA/EUROSTAT, experts and building capacities, financial support, reporting of the energy prices and energy indicators methodology and others. Agenda of the meeting was prepared on the base of the list of detailed questions defined by Energy institute Hrvoje Požar.

The meeting resulted with very valuable discussion about real needs of the statistical system as well as Office’s visions of the possible improvements. The following persons were presented on the meeting in State statistical office of Republic of Macedonia:

State statistical office of RM
Mrs. Gjurgica MILOSEVSKA
Mrs. (the name is to be verified)

Energy institute Hrvoje Požar (EIHP)
Mr. Damir PEŠUT
Mr. Branko VUK
Mrs. Helena BOŽIĆ

Legislative and Institutional framework

Law on official statistics of Republic of Macedonia (No. 54/97 and 21/07) reflects the organization of the action regarding to the collection, processing, dissemination and centralization of the official statistical information. This Law is supported with secondary legislation: Program for statistical surveys 2008-2012 (Off. Gazette 11/08).

The State statistical office of Republic of Macedonia is responsible for establishing methodological and organizational basis for statistical surveys, collecting, processing, presenting storing, protection, dissemination of statistical data and other.

For regular compiling of energy data Statistical office conduct monthly and annual surveys. Office gather data for production, import, export, consumption in transformation sector and for final energy and non energy use for all energy commodities that are produced in outer country.
Republic of Moldova does not have special regulation on energy statistics.

**Capacity building, experts and financial support**

In NBS nine persons deal with energy statistics but also with statistics of industry sector. Four of them are responsible for methodology and legal framework development while others are working on collection, compilation and stocking of the data. They are familiar with IEA/EUROSTAT questionnaires and are familiar with use of Energy statistics manual. The energy database on NBS is operated in MS DOS system, its format is not similar and do not completely respond to the requirements of the IEA/EUROSTAT methodology.

**Review of the methodology and technical aspects of the collecting, elaboration and processing data for the creation of the energy balance**

Following energy system and flow of the energy sources, the concept of the creation of the energy balance, the following aspect of the collection, elaboration and processing of the data according to the energy flows were identified.

**Sources of data collection**

Sources of data collection for the annual report on energy balances are surveys developed by the Statistical office and they have special purpose. There are totally 26 questionnaires for the energy sector – 13 monthly surveys and 13 yearly surveys:

- Monthly surveys on energy, Ene.11, Ene.16,
- Annual surveys on energy, Ene.51, Ene.52, Ene.53, Ene.54, Ene.55, Ene.56, Ene.57, Ene.58, Ene.59, Ene.60, Ene.62, Ene.63, Ene.65,
- Quarterly surveys on forestry,
- Annual surveys on agriculture,
- Statistical survey on external trade,
- Estimation of consumption in households by energy commodities types.

**Data scope**

In the process of collecting data from the reporting units two methods are used:

- the method of complete scope (for business subjects that perform production, transmission and distribution of energy),
- and the sample method (for business subjects consumers of energy).

Data on wood fuel production in the state and private forests are provided from the Public Enterprise for Forest Managing “Makedonski sumi” and the National Parks.

**CONCLUSIONS:**

On the base of the all data collected with the questionnaires the State statistical office develop energy balances for all energy commodities which are used in Republic of Macedonia. Energy balances are completely harmonized with IEA/EUROSTAT.
methodology. After the compilation of the energy balance for the previous year, on the base of the monthly surveys Office develop energy balances for each energy source on the monthly bases. This monthly energy balances are published with delay of about 1,5 year. This approach is not in accordance with requirements from IEA and EUROSTAT and there is not needs for such analysis.

It is observed in energy balances that heat production, as well as energy consumption for heat production, presents sum of heat production in industrial plants and in public plant. It is not clear if such report is correct, and should these two plants be report separately. According to the EUROSTAT methodology, autoproducers report the heat production from the heat plant (as well as fuel consumption for heat production) only if sell this heat to third person. This is in practice very rare situation.

There is also one more obscurity, energy balance report about heat consumption in refinery, but refineries usually produce their own heat needed for the refinery processes and according to the EUROSTAT methodology this heat is not reported.

Final consumption in Macedonian energy balances sometimes presents only consumption of the legal person. Also there is consumption of particular energy commodities, as for example for fuel wood, which is reported only on the bases of the official documentation. EIHP think that analysis of the sector of the final consumption should be improved with the surveys on energy consumption (households, service sector, industry, transport, constraining) in defined periods. Such analysis would identify more precisely consumption of the particular energies: fuel wood, LPG, light oil, diesel, motor gasoline and others. This would provide insight not only into consumption of the legal persons but also into consumption of the private persons. According to the EIHP experience, fuel wood consumption in household sector is 2 to 3 times larger than official sources report.

Production of the monthly energy statistics report pursuant to unified UNECE/IEA/EUROSTAT methodology and developing of the reporting system compliant with UNECE/IEA/EUROSTAT

State statistical office in Macedonia do not collect the data for the previous month as required by IEA and EUROSTAT methodology and do not develop reports for the previous month.

Developing of the reporting system to ensure the transparency of electricity and gas prices and production of the periodic report on gas and electricity prices and submission to the ECRB

State statistical office reports the energy prices only for the natural gas and in accordance with directive 2008/92/EC. The prices for electricity are not available now.

Developing of the reporting system to ensure the monitoring of the energy related sustainable development indicators.

State statistical office reports the following indicators: energy intensity, energy efficiency, share of biofuels and some others depends on the requirements from the international and own standards.
MOLDOVA
Field mission

According to the project activities plan Energy institute Hrvoje Požar visited Ministry of Economy of Republic of Moldova. The meeting was held on the 09th June 2010 in Chisinau, with beginning in at 9 am. The meeting was held with representatives from Ministry of Economy and with National Bureau of Statistic representatives.

The main goal of the meeting was to analyze institutional and legislative framework as well as current situation regarding to the energy statistic system. During the meeting the topics related Action plan were analyzed: development of the reporting system for energy statistics and energy balances according to the unified approach as defined by IEA/EUROSTAT, experts and building capacities, financial support, reporting of the energy prices and energy indicators methodology and others. Agenda of the meeting was prepared on the base of the list of detailed questions defined by Energy institute Hrvoje Požar.

The meeting resulted with very valuable discussion about real needs of the statistical system as well as Office’s visions of the possible improvements. The following persons were presented on the meeting in Ministry of Economy in Chisinau:

Ministry of Economy

Mr. Ilarion POPA
Mr. Vadim CEBAN

National Bureau for Statistics

Mrs. Valentina COMARNITCHI
Mr. Igor MOCANU

Energy institute Hrvoje Požar (EIHP)

Mr. Damir PEŠUT
Mr. Branko VUK
Mrs. Alenka KINDERMAN LONČAREVIĆ

Legislative and Institutional framework

Law on official statistics of Republic of Moldova (No. 412 of 09/2004) reflects the organization of the action regarding to the collection, processing, dissemination and centralization of the official statistical information following fundamental principles of statistics Amendment to the Law on official statistics (No. 314 of 02/2006). The National Bureau of Statistics (NBS) is the central authority that leads and coordinates all statistical activities in Country. It elaborates and approves the methodologies for statistical research and calculation of statistical indicators in accordance with international standards.
Republic of Moldova does not have special regulation on energy statistics. All statistical activities related to the energy field are briefly described in the Statistical Work Program which is each year approved by Government. According to the Statistical Work Program Division of Industry, energy and construction system is responsible for the energy statistics.

Capacity building, experts and financial support

In NBS nine persons deal with energy statistics but also with statistics of industry sector. Four of them are responsible for methodology and legal framework development while others are working on collection, compilation and socking of the data. They are familiar with IEA/EUROSTAT questionnaires and are familiar with use of Energy statistics manual. The energy database on NBS is operated in MS DOS system, its format is not similar and do not completely respond to the requirements of the IEA/EUROSTAT methodology.

Review of the methodology and technical aspects of the collecting, elaboration and processing data for the creation of the energy balance

Following energy system and flow of the energy sources, the concept of the creation of the energy balance, the following aspect of the collection, elaboration and processing of the data according to the energy flows were identified.

- **PRODUCTION**

  In Moldova, there is production of solid biomass, using of wastes and very small crude oil production.

- **IMPORT AND EXPORT**

  NBS submit unified questionnaire to all registries legal persons in Moldova which demand also information on the imports and exports (insignificant) quantities of energy. Moldova imports gas and oil products as well as about 75 percent of total electricity. Data obtained from the unified questionnaire is compared and corrected with the data from the Custom Office.

- **STOCK CHANGES AND BUNKERS:**

  The information on stock changes are submitted in the questionnaire too.

- **ENERGY TRANSFORMATION:**

  Electricity is generating in four power plans, three CHP and one HPP, while heat energy is produced in some heat plants. All data about energy transformed in collected with questionnaire.

- **ENERGY CONSUMPTION:**
NBS in the unified questionnaire has the special table for industry in order to achieve data about energy consumption in **industry sector**.

NBS collect the data about electricity distribution from 9 companies which hold the license for supply of the electricity. The similar situation is in natural gas sector. There are 28 companies in Moldova which distribute natural gas to the consumer. Electricity and distribution companies report the consumption by categories of consumption: household, industry and other consumers.

NBS collect data about import of oil products from 29 importers, from 1 wholesaler and from 146 retail vendors. **Transport sector** is also analyzed on the base of the same questionnaire which is submitted only to the legal person who use energy for the transport services: railways traffic, aircraft and other.

Energy consumption in **households** is estimated using the several sources of information. The main information come the reports from electricity, natural gas and heat distributions. The fuel wood consumption, which is very significant source of energy, with share in total consumption of about 40 percent, is corrected with reports from the responsible institution.

Questionnaire also addresses **agriculture sector**.

- **CONCLUSIONS:**

  The NBS collect information about 12,000 reiterated legal persons with unified questionnaire. This sample includes persons who produce, import and export, transform, transmit, supply and distribute energy, as well as person who only consume energy. The criterion for selection into sample is annual consumption of 1 ton of oil equivalent or 1000 kWh. EIHP suggest developing separate and more precisely questionnaire for particular subject in energy system, e.g. separate questionnaire for the subject who produce electricity and separate for the subject for which consume final energy, like subjects in transport sector.

  It is observed lack of the data for the final energy consumption, especially for service sector, households, transport and agriculture because of the sampling procedure which aims only legal persons. Ministry of Economy and NBS has recognized this deficiency and are prepared to support special research and surveys in the future.

  The lack of development is financial and human resources available for the energy statistics.

  The additional problem of NBS methodology for collection, elaboration and publication of the data is weak statistic on renewable energy, regardless to the very small involvement of this energy sources into Moldovan energy system. The unified questionnaire does not address the final energy consumption side.

**Production of the monthly energy statistics report pursuant to unified UNECE/IEA/EUROSTAT methodology and developing of the reporting system compliant with UNECE/IEA/EUROSTAT**

Statistical Burro for Statistics of Republic of Moldova do not prepare the plan for monthly energy statistic reporting.
Developing of the reporting system to ensure the transparency of electricity and gas prices and production of the periodic report on gas and electricity prices and submission to the ECRB

No submission of the report at this moment about gas and electricity prices according to the Directive.

Developing of the reporting system to ensure the monitoring of the energy related sustainable development indicators.

National Burro of Statistics reports the following indicators: energy consumption per capita (electricity, heat, natural gas, coal, wood for fuel, gasoline), average annual energy consumption per capita, energy intensity of industrial production, import of energy resources, import to internal energy consumption radio, GDP per consumed energy and others.
MONTENEGRO
Field mission

According to the plan of the project activities Energy institute Hrvoje Požar organized its second field mission to Podgorica, Montenegro. The meeting with representatives from Ministry of Economy, Statistical Office of Montenegro, Prenos AD Podgorica and TSO was held on the 12th May 2010 at 12:00 in Ministry of Economy.

During the meeting, Montenegrin Action plan was very analyzed using the list of detailed questions prepared by Energy institute Hrvoje Požar. The main issues of the meeting addressed following topics: Institutional organization for developing of the energy statistics and energy balance, Legislative framework, Experts and building capacities, financial support, Existing methodology for collection and elaboration of the data and developing of the energy balance, Development of the reporting system.

The meeting resulted with valuable clarification and improvement of the Action plan’s activities in order to achieve the target.

The following persons were presented on the meeting:

Ministry of Economy (ME)
Mr. Milorad BURZAN
Mrs. Radmila DAMJANOVIĆ
Mr. Anton Ljucović

Statistical Office of Montenegro (MONSTAT)
Mr. Muhidin REDŽEPAGIĆ
Mr. Masan RAIČEVIĆ

Prenos AD
Mr. Slaven IVANOVIĆ

Operater tržišta
Mr. Jovan PAVIČEVIĆ

Energy institute Hrvoje Požar (EIHP)
Mr. Branko VUK
Mr. Damir PEŠUT
Mrs. Alenka KINDERMÁN LONČAREVIĆ
Legislative and Institutional framework

Actual legislative in Montenegro for defining scope and responsibilities of energy statistics are the following:

*Low on Statistics Energy and Statistical System of Montenegro* and *Program of Statistical Surveys 2009 – 2013* regulate all issues significant for functioning of the statistical system of Montenegro (*Off Gazette of MNE no 69/05*).

*Regulation of the organisation and systematization of the Statistical Bureau of Montenegro – MONSTAT* (*Off Gazette of RMNE no 69/05*) define that Department for short-term indicators performs the collection, preparation, production, publication and development of short-term indicators for different sectors (construction, industry, investment, retail trade, tourism, etc.), including the energy sector and development energy balances, and developing of the reporting units according to the methodology of EUROSTAT taking into account the national needs for indicators for various sectors.

At the moment the MONSTAT is fully responsible for the managing of the energy statistics in Montenegro while the Ministry for economy participate in the development of energy statistics but with lesser extent.

Special improvement of the energy statistics system in Montenegro is envisaged by the implementation of the Government’s *Program for Development of the Energy Database in Montenegro*, achieved in June 2008, which split responsibilities between Ministry of Economy and MONSTAT with respect to collection of the data, processing and reporting of the statistical data. This is described in the new laws: Law on Energy (*Off Gazette of MNE no 28/10*), and Laws on Energy Efficiency which were adopted by Government in 2010 (*Off Gazette of MNE no 29/10*).

The obligations from *Law on Energy* from 2010 define (Articles 12 – 16) define the contents of the planned and annual energy balances: electric energy balance; coal balance; balances for oil and oil products, biofuels and gases, with exclusion of the natural gas; balance of the natural gas, balance of the heat energy for district heating/cooling and for industrial use.

Energy balance, according to the definitions in the *Law on Energy*, concerns the following: the balance for the previous year, estimation of the balance for the current year, and planned balance for the next year. Annual energy balance contains the annual analysis of the share of the energy produced from the renewable energy sources. According to the Law, energy subjects are obliged to report and to deliver the data for previous year until the 15th February of the current year. The Ministry will conduct analysis of the energy balance for the previous year until the 31st of March of the current year.

The another new *Law on Energy Efficiency* from 2010 defines, among the others obligations, the obligations for the Ministry of the Economy to develop and manage the informatics system for the energy efficiency in Montenegro and to collect the adequate data on the energy consumption of all energy sources and indicators which influence the consumption. The Law defines the forms of communication and corporation between the Ministry with Energy Market Operators, Energy Distribution Operators and energy distributions. They are obliged to submit the reports to the Ministry about: year annual consumption and structure of the energy according to the consumer category and purpose of the consumption, geographic distribution of the consumers. Large consumers need to develop annual plan for the improvement of the energy efficiency, and to, among others obligation, to enable the evidences of the
energy consumption and to create the Information system in their objects. The state institutions, organization, regulatory bodies, public enterprises need to enable the evidences of the energy consumption and to create the Information system in their objects as well. Large consumers and public and state institution are obliged to submit to the Ministry each year (by the 1st March) the following: total energy consumption by energy sources, total consumption of the energy in consumption sub sectors, total useful surface of the object, number of employees, and total costs for energies.

The new laws mentioned above completely response to specific EU directives on national targets and other increasing obligations of MNE towards EU arising from Regulation (EC) No 1099/2008 on energy statistics.

Capacity building, experts and financial support

Montenegro’s national statistics office – MONSTAT has established Energy Statistics Unit with three staff member within its Economic Statistic Sector. The unit participated in a regional capacity building projects with the Swedish International Development Agency (SIDA). At the moment the MONSTAT with ME work intensively to update the Energy Development Strategy and required historical energy balances for Montenegro for period 2005 – 2009.

After the conduction of the Workshop on Energy statistics in Podgorica held in the framework of the Government’s Program for Development of the Energy Data Base in Montenegro, mutual agreement was reached which propose the project of establishing a multi-purpose IT system for the needs of the energy sector. Beneficiaries of the project are: Ministry of Economy, MONSTAT and Market Operator. The project is co-financed by Slovene government and TA-EnCT. This project includes the following main components:

- Energy flows identification
- Means and forms for statistical energy surveys and data collection to the extent of possible usage through internet applications
- Methodologies and mechanisms for validation and processing of collected data, modern ID technologies
- Specification for computer-supported system (hardware, software and communication) prepared in close cooperation with the beneficiaries
- IT system platform procured, installed and tested min. number of administrators trained on-job.
- Specific and tailored-made applications in details of which shall be specified by the beneficiaries, in particular:
  - Based on adequate information system which will be installed at Ministry of Economy, Sector for Energy and MONSTAT the energy balances (annual, prospective and historic and long-term) as well as standard international indicators and standard reports will be developed using the internationally recognized standards (EUROSTAT/IEA) or as defined by users. All reports will be prepared in accordance with Low on Energy and respective regulation.
Based on adequate information system which will be installed at Ministry of Economy, Sector for Energy for the purpose of the data collection, organization and analyzing standard reports, specified by users will be programmed and developed in order to comply with requirements from the Low on Energy Efficiency.

Based on adequate information system which will be installed at Market Operator as defined by users will be programmed and developed. Such approach will comply with the requirements of Market Rules and Low on Energy and respective regulation.

- IT manuals
- Training is foreseen for at least two staff members from each institution: Ministry of Economy - Sector for Energy, Ministry of Economy - Sector for Energy Efficiency, MONSTAT and Market Operator. The training will result with total 8 highly educated persons for the energy statistics.

Currently, under the preparation is the draft ToR of the Project which will define the follow up activities until the commencement of the implementation.

The current state of the personnel capacity for implementation of the Program for Development of the Energy Data Base in Montenegro particularly at MONSAT and in Ministry of Economy is very questionable and this is the main barrier in the energy sector. Lack of adequately qualified staff at recipient organization is a problem for the on-the-job training and during the project as well as for sustainability of the project outcome.

According to the Action plan for the Energy statistics improvement as defined by Energy Community, the targets related to the building institutional monitoring framework, improvement of administrative capacity, engagement of the new staff will be reached by the end of 2010. The developing of the reporting system to provide energy statistics following UNECE/IEA/EUROSTAT methodology will begin in the second quarter of the 2010 and will finish in third quarter of the 2011. In the 2012 Montenegro will be available to produce energy balances based on the EUROSTAT/IEA methodology. The total costs of the project development is estimated on about 600,000 EURO.

EIHP Hrvoje Požar noted one very important failure of the Montenegrin Action plan for building the common approach for energy statistics in EC which refers to the part 4 and the fact that Ministry of Economy in the moment does not plan to prepare the reports for the IEA according to the defined questionnaires.

In meantime, Montenegro has establish communication with IEA and has sent all available data about energy statistics, so changes in Action plan are needed. The Montenegro has, through the new plan, envisaged to develop complex IT system which will be connection to the IEA yearly energy data questionnaire.

**Review of the methodology and technical aspects of the collecting, elaboration and processing data for the creation of the energy balance**

Following energy flow of the energy sources and the concept of the creation of the energy balance the following aspect of the collection, elaboration and processing of the data according to the energy flows were identified.
• PRODUCTION

Lignite is an important domestic energy source in Montenegro, accounting for 32 percent of the TPES. It is produced in two mining areas: Pljevlja and Berane. MONSTAT regularly receive the yearly production rate that can be building into energy balance.

Second primary energy source is hydro energy. The data about hydro energy used are available from EP CG reports.

Two offshore oil exploration blocks off the coast of Montenegro are held by Jugopetrol Kotor, owned by the Hellenic Group of Greece.

In Montenegro there is no production of biodiesel and bioethanol.

The production of natural gas does not exist, Montenegro does not have own natural gas resources.

Fuel wood is used in Montenegro predominantly for residential heating. The data about fuel wood production are obtained from the Statistical office - Department for forests.

Modern biomass is produced in Bar and Pljevlja. Statistical office seriously works on the collection of these data.

There is no use of wind energy. Solar energy is used in private sector and its usage is estimated according to the available number of installation of solar collectors.

• IMPORT AND EXPORT

Import and export of electricity is under the obligation of the EP CG. It reported to the Statistical office the annual imports and exports (small ammonuts) of electricity. Montenegro import approximately 30 percent of electricity supplied.

The Montenegro imports all oil products supplied to the consumers. The largest importer, trader and seller of oil product in Montenegro is private company Jugopetrol Kotor. Other participants include the state – owned Montenegro Bonus and INA from Croatia as well as subsidiary of the Serbia Gas from Serbia which produce only LPG.

All data about import and export of energy commodities are obtained by Custom Duty.

Montenegro exports small quantities of the coal.

• STOCK CHANGES AND BUNKERS:

There is no data about marine bunkers.

• ENERGY TRANSFORMATION:

Montenegro’s energy system relies mainly on hydropower plans (Piva and Perucica) and on TPP (Pljevlja) connected to the high-voltage grid. There are seven small HPPs. EP CG owns and operates all plants. EP CG reports about energy consumption of energy for transformation processes and energy transformed.

There is no district heating in Montenegro.
• ENERGY CONSUMPTION:

Industry and Energy Statistic Division of the MONSTAT conduct each year the survey on energy consumption in industry sector using the IND 21 questionnaire. Currently MONSTAT conduct the implementation of the National Classification of Activities Standards.

Transport sector is estimated on the base of the data from the Ministry of transport, maritime affairs and telecommunications which deliver to the Statistical office the data about number of vehicles and destinations in railway transport, air transport and river transport. The data about sea transport are obtained from the sea ports. Public transport is not well developed and is mostly based on the busses. Statistical office does not recognize the marine bunkers for the oversea transport.

Energy consumption in households is estimated using the several sources of information. The most significant energy source is electricity and the reliable data are reported from EP CG. Statistical office perform estimation of the coal used is household and according to the experience the estimation are reliable. The fuel wood is consumption estimated according to the reports from Forestry Statistics Division but this data are questionable. The Forestry Statistics Division monitor the cut of the different assortments but this data does not coincide with consumption. The consumption in households noticed increase of the LPG consumption but no reliable data about real situation about consumption, the same situation is also with oil product like light fuel oil used for heating.

The consumption in the service sector is not analyzed separately and it represents itself as a huge problem. The electricity can be obtained from EP CG. According to the plan Program for Development of the Energy Data Base in Montenegro Ministry of Economy, Sector for Energy efficiency prepares the Survey on energy consumption in services sector according to the Law on Energy Efficiency.

Consumption in sector of agriculture distinguish fishery from other activities. The consumption is based on the electricity and fuel oil consumption. Detailed survey on agriculture activities will be conducted in June this year. The results will be available next year. Energy in fishing sector is estimates on the base of the number of ships and realized nautical miles.

• CONCLUSIONS:

MONSTAT and Ministry economy express huge in interest in development of the uniform questionnaires related to gathering, processing and collection of statistical data. The Program for Development of the Energy Data Base in Montenegro is very ambitious, but it requires significant time and human resources.

According to the analysis of the energy system and energy statistic data availability described above EIHP concluded that there is real possibility to develop energy balance according unified questionnaire according to the IEA/EUROSTAT methodology. Montenegrin energy system is rather simple system and it is in the process of the planned fast development. Reconstruction and improvement of the existing data and can help development of the reliable energy balance in simple Excel format and needed period for such activity is not more than two months.

MONSTAT and Ministry of Economy are advised to start the preparation of the all available energy data for the year 2008 and 2009 which could be used on the Training in October in order to create energy balance and eventually clarify some misunderstandings. EIHP will before Training review all collected data and according to the needs it will ask for some additional data and modification of existing information.
Production of the monthly energy statistics report pursuant to unified UNECE/IEA/EUROSTAT methodology and developing of the reporting system compliant with UNECE/IEA/EUROSTAT

Montenegro does not report monthly energy statistics.

Developing of the reporting system to ensure the transparency of electricity and gas prices and production of the periodic report on gas and electricity prices and submission to the ECRB

Regulatory energy agency prepare and deliver reports about energy prices to the ECRB.

Developing of the reporting system to ensure the monitoring of the energy related sustainable development indicators.

Montenegro does not report energy indicators.

References

1. Minutes from the on-site mission of the EI
2. Remarks and conclusion from the Workshop on Energy Statistics held on 24 April 2010 in Podgorica
SERBIA
Field mission

According to the project activities plan Energy institute Hrvoje Požar visited Statistical Office of the Serbia in Belgrade. The meeting was held with representatives from Office’s division for the statistics for industry, energy and construction and was held on the 26th May 2010 in Belgrade.

During the meeting the Serbian Action plan and topics related to the development of the reporting system for energy statistics and energy balances according to the unified approach as defined by IEA/EUROSTAT methodology is analyses. Analysis was performed using the list of detailed questions prepared by Energy institute Hrvoje Požar.

The described communication resulted with valuable clarification and improvement of the Action plan’s activities in order to achieve the target.

The following persons were presented on the meeting in Statistical Office of Beograd:

**Statistical Office**

Mrs. Ljubica ŽIVADINOVIĆ

Mrs. Sanja RADONJIĆ

**Energy institute Hrvoje Požar (EIHP)**

Mr. Branko VUK

Mrs. Alenka KINDERMAN LONČAREVIĆ

The other topics: institutional organization for developing of the energy statistics and energy balance, legislative framework, experts and building capacities, financial support, reporting of the energy prices and energy indicators were analyzed additionally with and using available information from the Ministry of Mining and Energy (MME) and Energy Agency of the Republic of Serbia (AERS).

Before and after the meeting in Belgrade EIHP has developed the communication with the Ministry of Mining and Energy with Mrs. Biljana Ramić.

**Legislative and Institutional framework**

Official Statistic Law provides legal frame for production and dissemination of official statistics and also for the organization of the system of official statistics of the Republic of Serbia.

In Serbia the Law on Statistical Surveys (Official Gazette RS, No 83/92) defines statistic requirements and responsible institutions. According to the Law Statistical Office of the Republic of Serbia organizes and conducts statistical surveys and publishes the results of the surveys. Generally, uniform methodology and unified statistical standards, as stipulated by legal regulations in international documents are applied in the statistical surveys.
Law on Statistical Surveys is legal framework for the energy statistics development, which is support by The Decree on establishing certain statistical surveys also.

According to the Minister’s Decree, responsible institution for the energy statistics and energy balance development is Statistical Office of Serbia. Ministry for Mining and Energy is responsible for the development and submission of the energy balance for the following year. The Energy Agency of the Republic of Serbia was established by the Energy Law as regulatory body with competences covering electricity, natural gas, oil and oil product and CHP heat. The Agency publishes reports about actual average annual energy prices for the industry sector and households.

Capacity building, experts and financial support

In Statistical Office of Serbia, in energy group, 4 experts (plus one expert for the support from the department for development) are available for the development of the energy balance, collection and reporting the data. They have lot of experiences in the field of collection and elaboration of the energy statistics data. The experts are familiar with IEA / EUROSTAT methodology and questionnaires but they express the need for the additional capacity building dedicated to the particular issues of the energy balance development. The main barriers in for the expansions of the activity in the future are the lack of the financial resources and consequently with that the lack of human resources.

Review of the methodology and technical aspects of the collecting, elaboration and processing data for the creation of the energy balance

Following energy flow of the energy sources and the concept of the creation of the energy balance, the following aspect of the collection, elaboration and processing of the data according to the energy flows were identified.

- PRODUCTION

Lignite is Serbia’s largest primary energy source, accounting for about one-half of TPES. Two large open-pit lignite mines (Kolubara and Kostolac) produce 35 Mt and eight smaller underground mines produce 0.8 Mt of brown coal, lignite and hard coal. All data about coal production Statistical Office of Serbia collect by sending the special questionnaires to the producers. All received data are check and verify with results from the Public company for the underground coal exploitation.

All questionnaires are available on the official web site. As well as for coal Statistical Office of Serbia receives on the regularly yearly base the data about oil and gas production from Oil industry of Serbia (NIS).

All questionnaires are on the web.site expect those for refineries.

- IMPORT AND EXPORT

Import and export of particular energy source is under the obligation of the Custom Duties. NIS, EPS, Serbia Transmission system reports about imports and export too.
• **STOCK CHANGES AND BUNKERS:**
Stock changes are submitted in the questionnaires form the energy producers and distributors. There is no data about marine bunkers.

• **ENERGY TRANSFORMATION:**
Serbia's energy system relies mainly on thermal and hydropower plans connected to the high-voltage grid. EPS owns and operates all plants and has sole responsibility for power generation. In addition, EPS provides heat to the district heating network and industrial consumers. Power plant submits directly to the Statistic office of Serbia the energy spent for the production of electricity and heat and energy produced in the transformation processes.

Oil industry of Serbia (NIS) operates two oil refineries and Statistical office of Serbia submit them questionnaire on energy flows but also organise the meetings with representatives in order to clarify lot of difficulties arising from the complex energy flows and connection between refineries. The questionnaire for the refineries is still under the development and improvement.

Besides mentioned above, energy system of Serbia include the lignite drying processes, blast furnaces, cogeneration plants and others. All subjects who perform energy transformation submit the report about energy flows in processes.

• **ENERGY CONSUMPTION:**
Statistic office of Serbia submits the questionnaires to the industry sector synchronized with IEA questionnaire. The subjects who in their processes produce heat must compile additional questionnaire. The questionnaire comprises analysis of the energy consumption, non energy consumption and stock changes.

Statistic office applies NACErev2 standards. .

Transport sector is estimated on the base of the data from the Transport sector division. They provide the data about producers in transport sector, distributors, diesel consumption for the river transport and railways. On the base of the received data Statistical office models the energy consumption.

Energy consumption in households is estimated using the several sources of information, data from the distribution companies and different traders..

The main information comes from the Living Standard Measurement Survey, which among other analyses energy consumption.

Statistical Office put efforts into improvement of the questions related to the energy in order to create more precise questions on yearly energy consumption.

Analysis of the service sector is different from other sectors because of its complexiy. Electricity is for this analysis can be obtained from EPS.

Division for Agriculture conduct survey in agriculture and it consist the questions about energy consumption.

All data obtained from the questionnaires are compared with the reports which submits various traders of the natural gas, petroleum products, merchants of solid fossils fuels and others.
• CONCLUSIONS:

Statistical office of Serbia prepares and develops continuously the reports according to the IEA/EUROSTAT standards. The submission of the questionnaires to the IEA/EUROSTAT was followed the dynamics:

- Electricity balance sheet (from 2004)
- Heat balance sheet (from 2004)
- Solid fuels balance sheet (from 2005)
- Natural gas balance sheet (from 2007)
- Geothermal energy balance sheet (from 2007)
- Oil balance (2008)
- Fire wood (2008)

Total energy balance of the Republic of Serbia for 2007 contains all separate energy balances. Energy balances for Hydro Energy and Geothermal Energy are the first balances which are done in the group of Renewable energy balance. Other energy balance will be finished in the next period.

Methodology for creating the energy balances, defining and grouping of energy substances and types of energy, as well as statistical terminology are harmonized with internationally established standards as defined by IEA/UN/EUROSTAT methodology. Energy balance contains annual data on production, imports, exports, transformation and distribution.

Two experts from Statistical offices of Republic of Serbia are economists not energy experts. During the overall process on energy statistics development they work intensively on personal education conducting and investigating possibilities of the improvement of the statistical approach. That is maybe the reason why they achieve such successful results. They are aware of the missing elements in the balance sheet and are working on their collection and improvement.

Statistical Office exchange experiences on the personal basis with other National Statistical Offices and particular help and consultancies has received from the Statistical Office of the Republic of Macedonia.

Production of the monthly energy statistics report pursuant to unified UNECE/IEA/EUROSTAT methodology and developing of the reporting system compliant with UNECE/IEA/EUROSTAT

Statistical office of Serbia did not prepare the plan for monthly energy statistic reporting. The reason is the lack of the professional, financial and organizational resources and they in the following period plan to completely improve the energy statistics and energy balance according to the IEA/EUROSTAT/UNECE standards.

Statistical office has interest to conduct first the survey on final energy consumption, planned for the 2012, and then to put into procedure the developing of the monthly energy statistics and balances.
Developing of the reporting system to ensure the transparency of electricity and gas prices and production of the periodic report on gas and electricity prices and submission to the ECRB

Energy Agency of Republic of Serbia published the reports about average prices for electricity and natural gas for typical consumer in industry sector and household. Agency do not implement the new methodology and reporting system for the transparency of electricity and gas prices as defined by Directive 2008/92/EC.

This statement is not verified yet.

Developing of the reporting system to ensure the monitoring of the energy related sustainable development indicators.

Statistical Office of Republic of Serbia at the moment publishes only the following indicators: electricity consumption per capita and energy efficiency in thermal-electrical and heat energy.
Field mission

According to the plan of the project activities Energy institute Hrvoje Požar organized its fourth field mission to Prishtine, Kosovo. The meeting with representatives from Ministry of Energy and Mining (MEM), Kosovo Statistical Office (SOK), Energy Regulatory Office (ERO) was held on the 18th May 2010 at 12:00 in Ministry of Economy.

During the meeting, UMNIK Action plan was very analyzed using the list of detailed questions prepared by Energy institute Hrvoje Požar. The main issues of the meeting addressed following topics: Institutional organization for developing of the energy statistics and energy balance, Legislative framework, Experts and building capacities, financial support, Existing methodology for collection and elaboration of the data and developing of the energy balance, Development of the reporting system.

The meeting resulted with valuable clarification and improvement of the Action plan’s activities in order to achieve the target.

The following persons were presented on the meeting:

Ministry of Energy and Mining (MEM)
Mr. Sabit GASHI

Statistical Office of Kosovo (SOK)

Energy Regulatory Office (ERO)

Independent Commission for Mine and Minerals (ICMM)

Energy institute Hrvoje Požar (EIHP)
Mr. Branko VUK
Mr. Damir PEŠUT
Mrs. Helena BOŽIĆ

Legislative and Institutional framework

Actual legislative in UMNIK for defining scope and responsibilities of energy statistics are following:

According to the Law of Energy (No. 2004/8), the MEM is responsible for drafting and implementation of Government policy in the field of energy and mining. According to the Law of Energy(No. 2004/8),article 6 the MEM adopt annual and long term energy balances development with aim to used them for the forecast of energy demand, sources of energy and measures to be implemented.

The secondary legislation - The Administrative Order 2005/4 on rules on energy balance defines the content and manner of submitting data to be supplied by the government bodies, local governments’ energy enterprises and system operators for
the purpose of the drafting energy balance. According to The Administrative Order, the Energy Statistics and Balance Division of the MEM is defined as the responsible national body for energy balances. The Energy Statistics and Balance Division should prescribe the type of information to be collected, the manner of the collection and the processing of the said information in accordance with the international practice.

According to the Administrative Order 2005/4 on rules on energy balance, institutions who are obliged to collect and process data to the MEM are as follow:

- Kosovo Statistical Office (SOK);
- Transmission and Market System Operator (KOSTT);
- Ministry of Agriculture, Forestry and Rural Development, Agricultural Statistical Office;
- Ministry of Trade and Industry;
- Ministry of Environment and Spatial Planning;
- Independent Commission for Mines and Minerals (ICMM);
- Central heating companies;

But for reason that MEM don’t get full data from some several institutions, they have made cooperation memorandum with some institutions as: Kosovo Custom who provide us with the data on export and import of fuels, Ministry of Transport, etc. But MEM must note again that these entity are not legally obliged to report to us.

According to the needs and requirements of the energy statistics development, the MEM expresses is need for the improvement of the Law on statistics and to divide particular activities related to the energy data collection with SOK responsibilities. The main plans for the future are final establishment of the Energy Statistics and Balance Division and development of the communication procedure for the collection between institution regard to data gathering.

**Capacity building, experts and financial support**

The Technical Assistance for the responsible institution, MEM and SOK is curtail for the fully implementation of the Regulative 1099/2008 as well as the construction of the national communication system for official reporting. Currently, in MEM in Energy Statistics and Balance division work four experts.

Currently in MEM are working 4 (four) and in SOK 2 (two) experts on the energy statistics and energy balances.

In order to improve the overall procedure for the SOK and MEM plan to develop central database for the energy statistics. They express particular need for the additional training for the institutions and entities for energy statistical data reporting. There is also need for the reliable and professional need on energy system on energy.
Review of the methodology and technical aspects of the collecting, elaboration and processing data for the creation of the energy balance

Following energy flow of the energy sources and the concept of the creation of the energy balance the following aspect of the collection, elaboration and processing of the data according to the energy flows were identified.

During the development of the energy balance for the 2008 significant changes were introduced related to the previous year, particularly in the consumption side segment.

Ministry for Energy and Mining has started with the project: Development of the statistical and energy database, which comprise collection of the relevant data based on the survey analyses. The project started with surveys in five energy demand sectors: households, services, industry, transport and agriculture, using SPSS software for data processing.

The questionnaires comprise very detailed question on the energy consumption, characteristics of the objects, energy efficiency and additional data. The project will last three years and its intention is to make surveys, process data and to obtain adequate results.

During this year is going to be accomplished the project on Distribution of energy consumption in industry sector and possibility to improve its energy efficiency”, and in next year, in 2011 is planned to conduct the same survey in household sector.

The surveys conduct Institute for development research - Riinvest and for the purpose of this investigation it closely collaborate with KEK, MAFRD, MTI and the Ministry of Transport and Municipalities using their additional data for the purpose of the crating the sample for survey and

- **PRODUCTION**

Coal is important domestic energy source in Kosovo. The data about coal production are obtained from the Independent Commission of Mines and Minerals and direct from the producers like from “Kosovo Ugaji” AD. Also, other energy products are, fuel wood, hydro energy and solar energy.

Second primary energy source is hydro energy. The data about hydro energy used are available from KEK’s monthly, annualy reports and KOSST’s annual reports.

The responsible institution for the reporting of the fuel wood production is Ministry for Agriculture, Forestry and Rural Development. They do not deliver adequate data to the MEM, so for the purpose of the energy balance for 2008 the data from the survey on energy consumption were used.

For analyzing the solar energy MEM use the reports from the Kosovo Solar Energy (ESOK).

Association for Solar Energy of Kosova (ESOK) is an indepent organization respectively an N.G.O which is dealing with solar energy study, but is not authorised by the MEM, Data on solar energy we get from them on voluntery base.

- **IMPORT AND EXPORT**

All data about imports and exports for electricity KOSTT – Transmission System and Energy Market Operator of Kosovo deliver to the Ministry. All types of the fuels imports and exports are acquired from the Kosovo Custom Duties: oil product, coal and bio-
carburant. Bio fuels (biodiesel) means liquid or gaseous fuels for the transport sector produced from biomass;

- STOCK CHANGES AND BUNKERS:

- ENERGY TRANSFORMATION:

Ministry receive regular reports on energy transformed and produced in transformation processes. Self-consumption of energy for energy transformation purposes is not shown in the energy balance but the data are available in the KEK.

Kosovo Regulatory Office conducts analysis on the losses in electricity and district heating systems. The problem in energy sector transformation is not absolutely unified and harmonised system for reporting of statistical energy data between these two institutions, KEK and KOSTT.

- ENERGY CONSUMPTION:

Consumption of the heat from the district heating is obtained directly from district heating utilities. Technical and commercial losses are recognized but they are calculated in the framework of the consumption side of energy balance.

When analysing household sector with survey, the main problems arise during the calculation of the total energy consumed in this sector because the lack of the official data about population in Kosovo. Kosovo Statistic Office plan to conduct Census in 2011 but results are expected not before 2012.

For the purpose of the elaboration of the agriculture sector except survey on energy consumption, the database on the number of agriculture farms in Ministry of Agriculture, Forests and Rural Development play important role in definition of the sample for survey as well as for calibration of the achieved results.

The survey in industry sector is conducted using the EUROSTAT classification of the industrial branches and such classification is applied in the presentation of the energy balance.

Service sector is also analysed using the survey results and it distinguish several sub-categories of the services sector. The data for the sample for survey are taken from the KEK customer database.

Balance of the energy consumption in the transport sector that is faced with lot of non-systematized data. There is not uniform data source about enterprises or present vehicles. Initial data about transport are collected from the Ministry for Transport and Telecommunication (transport of the weight and passengers in intercity and intercity transport). Some data are collect directly from Kosovo Railways and Prishtine Airport. Local communities delivered the data about local transport companies for the passenger transport. All this data are modelled and are used for the organisation of the survey in the transport sector.

There is need to analyse construction sector too.

In the survey which was conducted by Insitute RIINVEST in 2009, construction sub-sector of industry is surveyed and analysed but as part of other industries branch.
• **CONCLUSIONS:**

MEM expresses their interest in development of the uniform questionnaires related to gathering, processing and collection of statistical data. They are continuously work on the development of the energy balance reporting but they need to apply additional modifications in order to approach to the definitions from the Regulation 1099/2008/EC on energy statistics.

Besides the modification of the data presentations, there are others problems which need to be solved, like presence of the oil product black market, non reiterated consumption of the coal in coal mines and others.

According to the analysis of the energy system and energy statistic data availability on Kosovo as described above, EIHP concluded that there is real possibility and solid ground for development energy balance according unified questionnaire according to the IEA/EUROSTAT methodology.

However, important changes should be applied in the structure of the presentation of the energy balance. The particular group of energies can not be presented in the framework of one definition, for example, liquid fuel has to be divided and presented according to the IEA/EUROSTAT defined methodologies.

Also, some additional changes should be implemented, firstly, in survey design in order to improve the quality of questions and related energy data. As for example, in household survey, the households are ask to define yearly energy consumption of the fuel wood, meaning in the same time, as noted in the bracket, consumption of the pellets and brickets. These categories must be separated in order to concede with IEA/EUROSTAT methodology. The similar mistakes are noted also in other sectors. Particular attention in survey analysis should be directed in the construction of the question and abilities of the participant to answer on the particular question, as for example: identification of the energy consumption for particular purpose (heating).

The problem with Census and population data can be solved without waiting the results from the Census. EIHP suggest use of the special modeling procedure and comparison of the data from the survey and data on electricity consumption from the KEK. This procedure EIHP applied several time in different areas and in each case it was adopted by relevant authority.

KEK measure consumption of electricity in all households.

MEM, in comparison to other members has established and started to develop more improved communication procedure and exchange of the energy data. This refers to the process of the sampling of the survey and communication with KEK and other responsible Ministries and institution.

**Production of the monthly energy statistics report pursuant to unified UNECE/IEA/EUROSTAT methodology and developing of the reporting system compliant with UNECE/IEA/EUROSTAT**

The MEM is responsible for development of the two types of energy balance according to the Administrative Instruction No. 2005/4 on Rules on Energy Balance:

- **Annual energy balance:**

This balance is produced annually and the report presents energy situation for the previous year (in 2010 we prepared energy balance 2009 document which presents
energy situation for 2009 in Kosovo). The first balance was prepared in 2005 (with data for the period 2003 – 2005 using the up-down methodology).

- **Long term energy balance:**

This energy balance is the energy forecast for future 10 years; the starting point is 3 annual energy balances from the past. Update of this document is done every two years.

At present KEK submit only quarterly data according the EUROSTAT methodology.

We prepare annual forecast demand document, but only for our need and facility in preparation of the long term energy balances, but we aren’t obliged with the legislation to do it.

In monthly basis MEM receive data as follow:

1. Kosovo Customs-data on import and export of all fuels;
2. KEK-data on electric energy production, production of coal (lignite), collection and billing of electric energy;
3. Central heating companies-data on production of generated heat, its consumption of generated heat, electric energy and other fuels;
4. ,,Kosova Thengjilli” j.s.c-data on production and sales of dried and wet coal;
5. Kosovo Railways-data on fuel consumption in the rail;
6. Pristine International Airport-data on kerosene (jet fuel);

**Developing of the reporting system to ensure the transparency of electricity and gas prices and production of the periodic report on gas and electricity prices and submission to the ECRB**

After transposing of the Regulation 1099/2008/EC will be defined responsible institution for reporting of the pricing, actually MEM respectively DESB (division for energy statistics and balances) is a point of contact in this issue.

**Developing of the reporting system to ensure the monitoring of the energy related sustainable development indicators.**

MEM-DESB in energy balances documents report on the energy consumption per capita, energy intensity and energy intensity by the economy sectors.

The structure of the energy market indicators and the way they are presented should be clearly explained to the MEM in order to avoid eventual misunderstanding.

**References**

3. Minutes from the on-site mission of the EI
COMMON PLATFORM, BENCHMARKING OF THE ACTION PLAN AND PRELIMINARY CONCLUSION
Institutional framework, legislative and organisation of the energy statistics

The wide variety of analysis was performed in order to provide real suggestion to some targets of the action plans. The on site missions has provided to EIHP lot of the new information that was resulted with even some changes in the concept or the project development.

The structure of responsible institutions for the collection, elaboration and publication of the energy statistics data in each Beneficiary are presented in the following table.

Figure 1. Institutional framework of the energy statistic processes

<table>
<thead>
<tr>
<th></th>
<th>State Statistics</th>
<th>Ministry</th>
<th>Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albania</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Bosnia and Herzegovina</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Croatia</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>fYRM</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moldova</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Montenegro</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serbia</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNMIK</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Georgia</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As table show three characteristic types of the institutional framework can be identified. The most common framework obliged State Statistics offices to collect, compile and elaborate energy statistic data and to develop energy balances. But, in the case of Albania, Croatia and UNMIK organization of institutional framework is different. In Albania responsibility for energy data lie on the Ministry of Economy, Trade and Energy and AKBN. In Croatia, EIHP is mostly responsible for collection, compilation, elaboration and reporting of the energy data using the additional data from the Statistics Burro of Republic of Croatia and MINGO. In, UNMIK, complete responsibility about energy data lies on the Ministry of Energy and Mining.

As well as institutional framework, the legislative framework has also particular significances and is related with the organisational framework. In most cases the Law on statistics is the main legislative base, accompanied with secondary legislation (if exists) or is responsible others decrees, programs or plans. Some of the information in the table below should be verified yet.

At the moment it is too early to define of to propose the missing legislative. Some Beneficiaries express the need for some changes in general laws and secondary legislation. However, at the end of this report EIHP suggests the methodological
concept for the further development of the energy statistics and first Beneficiaries should choose the appropriate development way and then build legislative framework.

Figure 2. Legislative framework of the energy statistic processes

<table>
<thead>
<tr>
<th></th>
<th>Laws</th>
<th>Secondary legislation</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low on Statistics</td>
<td>Low on Energy</td>
<td>Ordinance, Regulations, ...</td>
</tr>
<tr>
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<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bosnia and Herzegovina</td>
<td>✓</td>
<td>Principles for energy balance sheet</td>
<td>Program for statistical surveys</td>
</tr>
<tr>
<td>Croatia</td>
<td>✓</td>
<td>✓</td>
<td>Ordinance on energy balance</td>
</tr>
<tr>
<td>fYRM</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moldova</td>
<td>✓</td>
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<td>Montenegro</td>
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<tr>
<td>Serbia</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNMIK</td>
<td>✓</td>
<td>✓</td>
<td>The Administrative Order</td>
</tr>
<tr>
<td>Georgia</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

One of the main barriers in Beneficiaries related to the implementation of the Action plans is the lack of human resources. Following table present approximately number of the experts responsible in each Beneficiary, in the organisational structure, for the energy statistics. The number of responsible persons varies from 2 to 8, but this is no good indicative variable on the current situation.

For example, in Bosnia and Herzegovina three instructions are titled to develop energy statistics (State and Entities), but they still do not develop energy balance and other reporting on energy statistics, prices and indicators. The reason for the larger number of experts in energy statistics is intensive projects and development on this issue.

In Croatia 3 experts work on energy statistics, and Croatia fulfil all the targets as defined by common platform and action plan.

UNMIK employ 6 persons for energy statistics. Such large number can be results of the new program on conduction surveys in final sector consumption.

The main conclusion is that the lack of the educated persons brake the further development especially when discuss about activities related not only with development of the yearly energy balance, but when talking about monthly energy statistics reports, energy prices reports and monitoring of the energy indicators.

EIHP suggest to the Beneficiaries to employ temporary experts when develop methodology and energy statistics system. After the energy statistics system is
stabilized, then relevant institutions need less human resources (cases Macedonia and Croatia).

**Figure 3. Human resources in energy statistics organisational structure**

<table>
<thead>
<tr>
<th></th>
<th>State Statistics</th>
<th>Ministry</th>
<th>Agency</th>
<th>TOTAL</th>
</tr>
</thead>
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<td>2</td>
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<td>5</td>
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<tr>
<td>Bosnia and Herzegovina</td>
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<td>3</td>
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<td>8</td>
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<td></td>
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</tr>
<tr>
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<td>2</td>
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<tr>
<td>Montenegro</td>
<td>3</td>
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<td>3</td>
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<tr>
<td>Serbia</td>
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<td>2</td>
</tr>
<tr>
<td>UNMIK</td>
<td>2</td>
<td>4</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Georgia</td>
<td>3</td>
<td></td>
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<td>3</td>
</tr>
</tbody>
</table>

**Energy statistics, energy balances, reporting to the IEA/EUROSTAT**

For the purpose of the collection data on the supply side of the Beneficiary’s energy system each County has develop it’s own methodology with particular procedure of the data collection and submitting questionnaires to the reporting units related to the energy production, import and export of the energy and energy transformation, losses, stock and others. Among all the Beneficiaries, two cases can be selected for the purpose of the description of the variety of approaches. fYRM has develop 26 very detailed questionnaires which are delivered to the reporting units, while Moldova has unified questionnaire which is submitted to the 12000 reporting units, not only to the supply reporting units, but also to the consumption units.

Further activities of the project envisage the more detailed analysis of the quality of the questionnaires and the data received for each individual County. This activity EIHP plan to conduct in close relation with representatives from Beneficiary and this will be base for the organisation of the workshop.
Figure 4. Energy statistics – questionnaires on the supply

<table>
<thead>
<tr>
<th></th>
<th>State Statistics</th>
<th>Ministry</th>
<th>Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albania</td>
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<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Bosnia and Herzegovina</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
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<tr>
<td>Croatia</td>
<td>✔️</td>
<td>?</td>
<td>✔️</td>
</tr>
<tr>
<td>FYRM</td>
<td>✔️</td>
<td>✔️</td>
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<td>Serbia</td>
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<tr>
<td>UNMIK</td>
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<td>✔️</td>
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<tr>
<td>Georgia</td>
<td>✔️</td>
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</tbody>
</table>

Beneficiaries estimate final energy consumption by using various reports from distribution companies on the consumption of the distributed energy sources (electricity, gas, heat) for particular consumption sector: household, services, industry. But, the large problem arise when analyzing non distributed energy commodities (fuel wood, light oil, diesel, motor gasoline, LPG). Energy analysts for this purpose use various official reports on characteristic of the particular consumption group (transportation statistics, agriculture statistics, forestry statistics). In addition, for the household sector, some Beneficiaries use Living Standard Measurement Survey, but its questions about energy consumption are questionable. The largest problem on consumption side is to evaluate consumption of the fuel wood, because, responsible institution for forestry management reports only official quantities of the wood cut.

Among Beneficiaries, only UNMIK has conducted several surveys on energy consumption-by-consumption branches and has used this data for the elaboration of the energy balance.

All Beneficiaries are highly aware of the importance of the conduction of such survey and there are lot of interests for possibilities to apply such surveys, even with more detailed approaches like division of the service sector on sub sectors: health service, education, trade, tourism and chattering, administration and others.

EIHP highly recommend the development of the procedure for the conduction of the survey on the energy consumption in different sectors in all Beneficiaries as a significant step for the overall improvement of the energy balance.
Figure 5. Energy statistics – demand side questionnaires

<table>
<thead>
<tr>
<th>Country</th>
<th>State Statistics</th>
<th>Ministry</th>
<th>Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albania</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Bosnia and Herzegovina</td>
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<td>Croatia</td>
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<tr>
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<td>Moldova</td>
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<td>Serbia</td>
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<tr>
<td>UNMIK</td>
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<td>✓</td>
<td></td>
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<tr>
<td>Georgia</td>
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<td></td>
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</tr>
</tbody>
</table>

The **main summary** of all work done is presented in the following table. The table response on the crucial question that are set by this project.

Almost all countries prepare energy balances, except of Bosnia and Herzegovina and Montenegro. Beside them, also Albania and UNMIK do not submit questionnaires to the IEA/EUROSTAT.

On the base of the research conducted during this sixth week period EIHP concluded that Bosnia and Herzegovina as well as Montenegro can start immediately to prepare energy balance. The quality of their data who are available from the questionnaires are satisfied and parallel to energy balance development they can work on the development of the reports for IEA/EUROSTAT. The estimated period for energy balance construction is about 2-4 months. Montenegro energy system is relatively simple system and it does not require as much attention as Bosnia and Herzegovina with relatively complex energy system. According to the EIHP experiences from previously conducted similar projects in Montenegro and Bosnia and Herzegovina there is very firm ground for energy balance development. The barrier in those countries is lack of expertise and qualification as well as appropriate organisational structure.

When analyzing quality of other countries EIHP concluded that, all countries need an improvement in the methodology for the collection, compilation and elaboration of the data: in less and wider extent.

The main conclusion in identification of the quality of the collected can be found in the following approaches: some countries has excellent statistical quality (FYRM) but less qualitative analytical approach. Croatia presents opposite situation to FYRM case: it has excellent analytical approach but less qualitative questionnaires and reports from reports units.

This approach may results as first preliminary suggestion to the Beneficiaries: to develop their capacities in both ways: statistical and analytical. Statistics should be directed to the questionnaire development and submitting of the data, while analytics should explain this data and elaborate results.
Figure 6. Energy balances and reporting to the IEA/EUROSTAT

<table>
<thead>
<tr>
<th>Does country ..........</th>
<th>develop energy balance?</th>
<th>sumbitt questionaires to IEA/EUROSTAT?</th>
<th>can develop balance and reportrs for IEA/EUROSTAT?</th>
<th>need improvement?</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>Bosnia and Herzegovina</td>
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<td>X</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Croatia</td>
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<tr>
<td>fYRM</td>
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<td></td>
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<td>Montenegro</td>
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</tr>
<tr>
<td>Georgia</td>
<td>✓</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

Monthly statistics, energy prices, energy indicators

Monthly energy statistics according to the IEA/EUROSTAT methodology submit only Croatia. Macedonia submit only monthly statistics for energy prices.

Figure 7. Energy balances and reporting to the IEA/EUROSTAT

<table>
<thead>
<tr>
<th></th>
<th>MONTHLY (n-1)</th>
<th>MONTHLY (n-3)</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>Bosnia and Herzegovina</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Croatia</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>fYRM</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Moldova</td>
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<tr>
<td>Montenegro</td>
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<tr>
<td>Serbia</td>
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</tr>
<tr>
<td>UNMIK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Georgia</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Only Croatia reports the prices on gas and electricity according to the directive 2008/92/EC, FYRM published the prices for gas, while the methodology for the electricity is not developed yet.

Other countries has mentioned that they report prices but this statements has not be verified yet.

**Figure 8. Reports on gas and electricity for households and industry**

<table>
<thead>
<tr>
<th></th>
<th>Gas</th>
<th>Electricity</th>
<th>Not yet veryfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albania</td>
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<td></td>
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</tr>
<tr>
<td>Bosnia and Herzegovina</td>
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</tr>
<tr>
<td>Croatia</td>
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<tr>
<td>FYRM</td>
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<td></td>
</tr>
<tr>
<td>Moldova</td>
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<tr>
<td>Montenegro</td>
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<tr>
<td>Serbia</td>
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<td>✓</td>
<td></td>
</tr>
<tr>
<td>UNMIK</td>
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<td></td>
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<tr>
<td>Georgia</td>
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</tr>
</tbody>
</table>

The countries approved that they monitor energy indicators, but in most cases, they do not compile all requested energy indicators. Some countries monitor some other similar indicator. EIHP suggest to the Beneficiaries to draw energy indicators from the energy balances report, and once when balances will be developed at satisfied level, calculation of the energy indicators will require very simple procedure.

**Figure 9. Reports on energy indicators**

<table>
<thead>
<tr>
<th></th>
<th>Defined</th>
<th>Other</th>
</tr>
</thead>
<tbody>
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<td>Albania</td>
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<tr>
<td>Bosnia and Herzegovina</td>
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<tr>
<td>Croatia</td>
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</tr>
<tr>
<td>FYRM</td>
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<td></td>
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<tr>
<td>Moldova</td>
<td>✓</td>
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<tr>
<td>Montenegro</td>
<td>✓</td>
<td></td>
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<tr>
<td>Serbia</td>
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<td>UNMIK</td>
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<td>✓</td>
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<tr>
<td>Georgia</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>
Training

On the base of the all achieved results EIHP suggest and propose a preliminary concept or the Workshop in the Paris in November. It should consist of the following sessions:

**First day:**
- INTRODUCTION: scope and plan of the workshop, expected results and possible further activities;
- COUNTRY CASES: presentation of the examples of the countries in EU with successful energy statistics: complex and simple energy system, large and smaller countries etc.

**Second day:**
- PARALLEL SESSION A – Development of energy balances: at least one day should be reserve for the small workshop on general issues and methodologies on the collection, compilation, organisation of the data on energy statistics related to the supply side of the energy balance, development of energy balance and reporting to the IEA/EUROSTAT. This session is dedicated to those Beneficiaries who is significantly behind the process (do not develop energy balance, do not report the IEA/EUROSTAT). During this session Beneficiaries should prepare own data which will be analysed.
- PARALLEL SESSION B – Improvement of the energy balances: this session is planed for those Beneficiaries which have developed organisational structure and methodological concepts but which need improvements of the particular parts of the energy statistics processes.

**Third day:**
- ENERGY CONSUMPTION STATISTICS: presentation of the methodologies (Surveys) for the collection, compilation and elaboration of the data on energy consumption in particular sectors (households, services, transport, agriculture, constructing) as this issue is one of the more questionable in all countries.
- CONCLUSION: achieved results and plan for further activities.

Behind the mentioned concept, the workshop should results with better networking between responsible institutions in Beneficiaries in order to transfer the knowledge, experiences and expertise in energy statistics. This on job training concept is already present in some cases and has excellent results. For example, the statisticians from Macedonia significantly help statisticians in Serbia and further statisticians in Serbia help statisticians in Republika Srpska (BiH).

**Further activities**

Further activities on the project will comprise more detailed analysis of all collected information and information delivered later. EIHP will analyse all delivered data from the Beneficiaries that will be prepared for the Workshop. In addition, EIHP will prepare road map on Energy Community level and will create more detailed plan for the organisation of the Workshop in Paris.
LITERATURE
1. Energy statistics in Energy Community: Stocktaking report
4. Action plans of the Beneficiaries