

# National Statistical Committee of the Kyrgyz Republic

## Baseline review of statistical data on energy in the context of SE4All

Bishkek, 2017

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## **Executive Summary**

For the last years great changes, identifying the future of the country are taking place in the social, political and economic life of Kyrgyzstan.

Kyrgyzstan has to find its place in a rapidly globalizing world. For more than two decades after the collapse of the USSR, the people of Kyrgyzstan were in a grip of “viability” and this period is characterized as a period of “lost possibilities”. There were a number of attempts made to improve the situation, including the substantial support from country-donors and international organizations (programs “Comprehensive Framework of Development” (2001), “Poverty Reduction Strategy” 2003, “New Economic Policy” (2009), numerous sectorial development programs, etc.). A lack of succession and goal orientation of the national policy did not provide strong support to develop top priority sectors of economy. As a result of it as distinct from most of other republics of former USSR, Kyrgyzstan for 25 years could not take the proper position in the world economic processes. Economy of Kyrgyzstan could not be independent and harmonious integral part of the Central-Asian region or CIS.

In this regard, the National Council on sustainable development of the Kyrgyz Republic proposed its own vision of the future of the country, pointing to the main goals and activity priorities, which are to be consistent even in case of change of the government. Five-year Sustainable Development National Strategy of the Kyrgyz Republic (2013-2017.) is the first government document pointing to the main objectives for political, economic and social development of the country and is presented in a new format of political order of the country.

Strategic vision of Kyrgyzstan in long term is a strong and independent state among the developed countries, comfortable for people, providing protection of their rights to liberty and security, multi-lingual and friendly in-country environment, compliance with the law, high level of education, healthy environment, public stability, international image of wealthy country, sustainable growth of economy and high investment attractiveness.

As of today Kyrgyzstan has a goal to establish itself as democratic state with sustainable political system, tiger economy and sustainable livelihood for people.

The National Sustainable Development Strategy of Kyrgyz Republic for the period 2013-2017 (hereinafter Strategy ) is assigned to undertake this mission.

Implementation of the Strategy helps Kyrgyzstan substantially to make great steps to gain the energy independence and make serious demand to have in the nearest future the status of a big electrical energy exporter.

Kyrgyzstan is rich of mineral resources and has low stocks of natural gas and original oil- in-place. Oil and gas are imported to Kyrgyzstan and about 95% of population is connected to the network. The distribution system losses are about 13 %, and the reliability is far from perfect. The electrical energy losses in residential areas are higher than in thinly scattered population areas, and 30% of distribution system is to be replaced. In 2008 there was enacted a law on renewable energy sources. It includes the projects on biomass and bioenergy power generation, hydro-energy, solar energy and wind industry.

Low tariffs and rich hydropower resources limit the development of renewable energy industry. Hydro-energy is the only documented sources of renewable energy to generate the electrical energy.

Additional generation of cheap electrical energy will cause an increase of a number of companies, production output, creating new vacancies on small and mid-sized business companies as well as the economic recovery in the regions.

The purpose of this document is a sober estimate of the existing sustainable energy statistics and propose activities to improve the quality of statistics.

National Statistical Committee of the Kyrgyz Republic (hereafter NatStatCom) is a government agency, implementing the state statistical activity based on the principle of professional independence self sufficiency and coordinating the activity in records and statistics throughout the territory of the Kyrgyz Republic. NatStatCom is accountable to the President of the Kyrgyz Republic.

- The activity of NatStatCom is regulated by the Constitutions, the Law of the Kyrgyz Republic “On state statistics”, existing legislation of the Kyrgyz Republic and Statements on National Statistical Committee of the Kyrgyz Republic.

- NatStatCom, territorial agencies of the state statistics and subordinated agencies of the state statistics form the entire system of the state statistics of the Kyrgyz Republic.

- NatStatCom is a legal entity having official seal with its name and depiction of the state coat of arms of the Kyrgyz Republic.

The objectives of NatStateCom are as follows:-

- implementation of the state policy in statistics;
- collection, processing, study and dissemination of the statistical information on wide-scale economic social, demographic, ecological phenomena and processes taking place in Kyrgyz Republic and its inland regions;
- reliability assurance, integrity, completeness and timeliness of official statistical information
- information assurance and accessibility of statistical information, its sources and methods of compilation;
- development, updating and introduction on scientifically adopted methodology;
- assurance of development, updating and introduction of unified system of classification and codification of technical, economic and social information used for implementation of statistical monitoring;
- establishment and management of the Unified statistical units state register;
- coordination of the state authority bodies, local administration and other legal entities in collection and usage of administrative data;
- interaction assurance of the state statistical information system with the information systems of the state government bodies, local administrations, international organizations and statistical services of other countries for reporting relationship;
- introduction of the latest information technologies for processing of the statistical information;
- assurance of security and storage of statistical information.

## **1. Introduction**

According to the Global assessment (GA) of the national official statistics system of the Kyrgyz Republic made in 2012 by the international experts from the United Nations Economic Commission for Europe, European Free Trade Association, European Commission (EUROSTAT), Kyrgyz Republic completed the transfer of the national statistical service to international methodological standards. Due to above said, the main sectors of the official statistics are fully harmonized with UN international standards, and some of them with the version adopted by the European Union. The purpose of the Global assessment of the national system of official statistic was to estimate the legal and institutional structure of statistical system, technical and management possibilities for preparation of statistical information by effective way and also the compliance of the statistics with the international and European standards and recommendations, as well as the increase of effectiveness of the national information statistical system based on the improvement of the legislative base, introduction of advanced informational communicational technologies to integrate the statistical processes, improvement of quality of data and confidence of users and also the increase of statistical intellectual potential. One of the chapters of GA is devotes to energy statistic.

.The main priority of energy statistics is an implementation of a number of management and methodological activities to improve the energy statistics. Taking into account the importance of the questions on energy problems, which is regarded as a strategic sector and has a direct impact on the living standards of population as well as the other sectors of economy it is important to improve the existing monitoring system of the consumption of fuel and power resources. The unified approach to the activity related to energy statistics is required due the following reasons :- it helps people shaping the policy in the process of decision making; ease-off administrative burden in the process of collection and delivery of data; requires less efforts from the organizations during the explanations of differences between the different methods of dataset; helps the people to understand the energy situation in their and other countries. Detailed, complete, timely and reliable statistical data will play the important role in the monitoring of situation in energy sector both on the national and regional levels.

The main clients of energy statistics and energy balance are the relevant departments of the Presidential Administration and the Executive Office of the Government of the Kyrgyz Republic, which are in charge for the economy sector, State Committee for industry, energy and subsurface management and also international organizations (particularly International Energy Agency), academic specialists and students. The State Committee for industry, energy and subsurface management of KR uses the energy balance statistics for estimation and planning the reserves of fuel and power resources and its management.

## **2. Energy Statistics System in Kyrgyzstan**

Industry & Energy statistics department of NatStatCom is in charge for energy statistics and processing of annual fuel and energy balance. Energy statistics data cover the generation, transmission and distribution of the electrical energy, gas and heat energy. Reporting entities are those companies, which generate, transmit and distribute the electrical energy. Statistics is collected through structural monitoring of companies (mandatory reporting system) and updated by random surveying of small companies (sometimes individual entrepreneurs), which generate/consume the electrical energy and fuel/oil. Big companies in Bishkek submit their reports to the central computer center on NatStatCom (CCC) Data on sub-offices received from the big companies are forwarded to territorial state statistics agencies. The results of the surveying are updated by information collected through integrated budget assessment of households or other sources. Initial data to process the fuel energy balance are received from the Statistic Forms, which are used for reporting by all active entities regardless of the type of

ownership and who produce or consume fuel energy resources (oil, gasoline, diesel fuel, fuel oil, natural gas, coal, electrical energy, heating energy).

Every year, the industry and energy statistics unit of NatStatCom prepares fuel-energy balance, which is published at the end of November.

NatStatCom collects the energy data on monthly, quarterly, and annual basis. Monthly data are collected basing on the generation of electrical and heat energy, coal mining and natural gas output. The reporting is submitted by the regional statistic agency on the 1<sup>st</sup> day following the reporting period.

Monthly electrical energy statistics is collected using the Form № 1 II-Electric «On generation, transmission and distribution of electrical energy». This Form is filled and submitted by the companies (and also by its subordinated units) authorized to generate and distribute the electrical energy

For data collection on natural gas, Form № 1 II – Gas is used, which is filled by the companies in charge for transportation and distribution of gaseous fuel

Similar to data collection on gas, NatStatCom collects statistics on production and distribution of heat using the Form № 1 II – heat.

NatStatCom uses special form to collect the data on stocks of fuel Form № 4- CH (stock). The stock data are collected on quarterly basis.

Annual statistics on electrical energy is collected by Form № 24-Energy «On generation, transmission and distribution of electrical energy and the status of energy equipment». All joint stock companies, companies and its subordinate units with core business and unrelated business «Generation and distribution of electrical energy» и «Industry», consuming electrical energy should submit the reports using a Form № 24-Energy and submitted on the permanent annual basis.

Fuel-energy balance (FEB) includes information on production/generation, availability, distribution and consumption of fuel-energy resources. Data for fuel-energy balance are collected using the Form № 1 – FEB, and this Form is submitted by active entities of all type of ownership on the 25<sup>th</sup> of January after reporting period to territorial state statistics agency at its location. Data for fuel energy balance are collected in accordance with the approved methodological principles. They are based on the submitted filled official statistical forms used for reporting on generation/production, transmission and distribution of energy. In accordance with the legislation, all active entities, regardless of the type of ownership and who produce or consume the fuel or other types of energy, like fuel, gasoline, diesel fuel, oil, natural gas, coal, electrical energy and heat must submit reports on the regular basis.

Every year NatStatCom collects in total about 8000 report in Form № 1 –FEB from all legal entities (part of tax system), both, from big and small companies.

Data on import and export by types of energy are formed on the base of Form №1-Murual Trade «import and export of goods» and data on cargo custom declaration collected by the State Custom Agency.

The data on average consumer prices are collected by price statistics unit by its registration on daily basis.

Collection of data on households budget is carried out annually by Form №7 «Personal possession and living facilities».

Energy statistics data are given in industry statistics publications (monthly publications, alerting service and annual industry statistics publications).

## **a. Ministries/agencies/companies involved in the system and their roles**

The main partner of NatStatCom on energy statistics in inter-agency cooperation is a *State Committee for industry, energy and subsurface management*:

State Committee for industry, energy and subsurface management of the Kyrgyz Republic (hereinafter - Committee) is a central body of executive authorities exercising the functions on the development and implementation of state policy in industry sector, except food industry (hereinafter industry), fuel and energy complex and subsurface management. The Committee follows its activity in accordance with the Constitutions of the Kyrgyz Republic, laws of the Kyrgyz Republic, other statutory and regulatory enactments of the Kyrgyz Republic, international agreements, which came into effect under the established procedure, and also the present Statement.

The objectives of the Committee are as follows :-

- a) increase of efficiency of the state policy in industry, fuel energy complex and subsurface management well as the energy security;
- б) enabling environment for development of industry and fuel energy complex;
- в) development of facilitating mechanisms of energy efficiency, energy saving and usage of renewable power sources;
- г) arrangement of reliable conditions to feed the consumers with energy resources, industry goods and services;
- д) government control of subsurface management problems and improvement of control of state fund of subsurface resources;
- е) consistent integrated geological study of subsurface resources.

*Statistical reporting on energy is delivered by :*

- opened joint stock company «National electrical network of Kyrgyzstan»,
- opened joint stock company «Electric Power Plants»,
- opened joint stock company «Severelectro»,
- opened joint stock company «Vostokelectro
- opened joint stock company «Jalal-Abatelectro»
- opened joint stock company «Oshelectro»,
- LLC «Gazprom»,
- companies of «Teplokommunenergo» system,
- natural resource extracting companies (organizations)-coal, oil, gas,
- active entities of all types of ownership, consuming fuel-energy resources,
- active entities of all types of ownership, importing/exporting fuel-energy resources.

Within the framework of international cooperation it is practiced to fill questionnaire forms on coal, electric energy, heat, oil products and renewable energy for IEA. In 2014 the first 5 joint annual forms IEA/Eurostat//UNECE had been managed and it was a result of consulting activities carried out by IEA analysts.

In 2016, the statistics on renewable energy were submitted to International Renewable Energy (IRENA).

Within the period of 2012-2015 the specialists of the department had an active part in implementation of activities within the framework of program INOGATE funded by European Union, which was aimed to strengthen the potential of the national statistical agencies in collection, processing

and dissemination of adjusted statistics, harmonization of energy statistics in accordance with the European and international standards. Thanks to INOGATE, the NatStatCom of Kyrgyzstan had developed Plan of activities on energy statistics for the period of 2012-2014, which was aimed to develop the qualified fuel-energy balance.

#### **b. Legal basis (in statistics)**

National Statistical Committee of the Kyrgyz Republic (hereafter NatStatCom) is a government agency, implementing the state statistical activity based on the principle of professional independence self-sufficiency and coordinating the activity in records and statistics throughout the territory of the Kyrgyz Republic

##### ***Law on state statistics***

1. At present, the NatStatCom of KR follows its activity in accordance with the Law “ On state statistics”, which provides the legal basis for uniform policy in official statistics sector.
2. The law is a ruling document for implementation of activity in official statistics and identifies the rights, sphere of application of law, processes and responsibilities towards the official statistics. This Law includes the principles of UN official statistics and gives adequate flexibility in relation to the changes of statistical activities according to the varying information needs and required updates for methodological standards meeting the international requirements.

##### ***Statutory-regulatory enactments:***

##### **Presidential Decrees of the Kyrgyz Republic**

3. Presidential Decree 2007, (№ 335 On National Statistic Committee) regulates in more details than a Law the tasks of NatStatCom and its subordinated agencies, the authorities of the Chairman of NatStatCom and the Board of NatStatCom. This Decree is a compressed and useful set of rules for state statistics system and helps to make most of the internal managerial decisions either by the Board of the NatStatCom or the Chairman of the NatStatCom.

4. ***Statute on the National Statistical Committee of the Kyrgyz Republic.*** According to this the objectives of the NatStatCom are as follows:-

- implementation of the state policy in statistics sector ;
- collection, analyses, processing and dissemination of statistical information on mass economic, social, demographic, ecological phenomena and processes taken place in Kyrgyz Republic and its inland regions;
- reliability assurance, integrity, completeness and timeliness of official statistical information;
- information assurance and accessibility of statistical information, its sources and methods of compilation ;
- development, updating and introduction on scientifically adopted methodology;
- assurance of development, updating and introduction of unified system of classification and codification of technical and economic and social information used for implementation of statistical monitoring;
- establishment and management of the Unified state statistical units register;
- coordination of state authority bodies, local administration and other legal entities in collection and usage of administrative data;

- secure the interaction of the state statistical information system with the information systems of the state government bodies, local administrations, international organizations and statistical services of other countries for reporting relationship;
- introduction of the latest information technologies for processing of statistical information;
- assurance of security and storage of statistical information as well as the primary administrative data on the level of accounting units, following its confidentiality in accordance with legislation of the Kyrgyz Republic.

### **Government Decrees**

5. NatStatCom develops in association with the central government authorities and other involved agencies the annual Statistical Activities Program, which is to be approved by the Kyrgyz Government and funded due to the state budget. This program is to be a legal base to implement the relevant statistical activities in the course of a year.
6. Along with the Program of the Statistical Activities, NatStatCom develops and approves long-term programs on state statistics development (Program of statistics improvement 2015-2019, Statistics Development Strategy, etc.). As of today, it was adopted and active the 6<sup>th</sup> Program of improvement and development of the state statistics of the Kyrgyz Republic for 2015-2019, which is approved by the Government Decree dated March 24, 2015r. №144.
7. There are other decrees regulating the Uniform State Statistical Units Register (USSUR) (Statement on USSUR, 2003 with amendments in 2008 and Statement on cooperation of USSUR with departmental state registers 2007). The first ones of two statements explain in the last chapter that any relevant entity has a right to have information from the register (which does not contain any quantitative indicators like employment or turnover, only the names, address, legal status, economic activity, unified characteristics as well as the special numbers, like tax codes), but the register which is opened to public definitely is not limited only by statistics.

### **Decrees of NatStatCom Board**

8. Decisions of the Board are made in the form of decree, which are to be mandatory for all “state statistics agencies”.

### **Legal basis (in energy)**

The Law of the Kyrgyz Republic dated January 28, 1997, № 8 «On Electric Energy»  
The present Law is based on the statements of the Law of KR “On Energy”, other legislative instruments of Kyrgyz Republic and are to be respected by all the legal entities regardless of the form of ownership and also the individual entities, which produce, transmit, distribute, sell and consume electrical and heat energy.

The purpose of this Law is to provide the reliable, safe, uninterrupted power, heat supply and improve the quality of services to all consumers, to create competitive environment and form energy market, simulate private sector development and attract investments.

Law of the Kyrgyz Republic dated October 30, 1996, N 56 «On Energy»  
This Law identifies the main principles of management and control of economic activity in fuel-energy sector. The functioning of the statements of this Law is effective to all companies of fuel-energy complex regardless of its forms of ownership.

Fuel-Energy Complex in Kyrgyz Republic includes energy sectors. Each energy sector and its activity is controlled by the statements of present Law and laws and regulation of the Kyrgyz Republic.

The objectives of the present Law are to raise the economic effectiveness and reliability of fuel-energy complex functioning, protect the interests of consumers and producers.

Law of the Kyrgyz Republic dated December 31, 2008, N 283 «On renewable energy sources».

Law «On renewable energy sources» establishes legal, organization capability, economic and finance bases, mechanisms to control the states relationship, producers, suppliers and consumers of renewable power sources, production equipment, installations for renewable power sources.

The purpose of this Law is the development and usage of renewable power sources, improvement of energy framework, diversification of energy resources, improvement of human social situation, assurance of energy security for Kyrgyz Republic, environment control and sustainable development of the economy.

The sectors to be controlled by this Law are as follows: - generation/production, consumption and selling the heat, electrical energy and fuel, which use the renewable power sources and also the production and delivery of the equipment and technologies for renewable power sources on the territory of the Kyrgyz Republic.

Law of the Kyrgyz Republic dated June 8 1998 №77 «On oil and gas»

Law of the Kyrgyz Republic dated February 3, 1999 №18 «On coal»

Law of the Kyrgyz Republic dated August 9, 2012 №160 «On subsurface resources»

Law of the Kyrgyz Republic dated July 6, N 137 «On energy efficiency of buildings»

Government Decree of the Kyrgyz Republic dated January 30, 2017, № 53

«On approval of activity Plan of the Government of the Kyrgyz Republic for implementation of the Program of Kyrgyz Government “Trust and Unity” for 2017

Decree of Kyrgyz Government dated May 28, 2012 N 330

«On mid-term strategy of development of electrical energy industry of the Kyrgyz Republic for 2012-2017 ».

Kyrgyz Government Decree, dated November 14, 2014 № 650

«On State Agency for fuel and energy regulation at the Government of the Kyrgyz Republic».

Kyrgyz Government Decree, dated April 26, 2016 № 215 «On preparation of economy sectors and population of the Kyrgyz Republic for autumn-winter season 2016/2017»

Kyrgyz Government Decree, dated July 15, 2016 № 401 «On State Committee of the Kyrgyz Republic for Industry, Energy and subsurface resources management»

Kyrgyz Republic possesses adequate fuel-energy resources, but the potential possibilities of fuel-energy complex (hereinafter - FEC) are implemented unsufficiently, and this sector gets into financial and economic difficulties. Dependence of the country on the import of energy products and the proportion component of these products is about 50% out of the total energy consumption. All this has a negative impact on the performance of FEC and other sector of economy.

Power supply companies of the Kyrgyz Republic are classified by the types of activity. The production of electrical energy mostly is performed by the biggest company – OJS company “Electric Power Plants”. The transmission of power by high voltage network is carried out by the OJS company “National Electrical Network of Kyrgyzstan”(hereinafter OJS NENK). The functions of power distribution by 35 kV and less up to ultimate customer are carried out by four regional power distribution companies. All companies are regarded as monopolists. The Kyrgyz Government takes a number of steps improve the work of power companies and signed Agreements on interaction with these companies.

Supervisory Board was established by the Decree of the President of the Kyrgyz Republic “On transparency initiative in fuel-energy complex”, dated July 2010 № 49 Staff, objectives and functions of the Supervisory Board are approved by the Kyrgyz Government Decree February 28 2011 № 77.

The main objectives of the Supervisory Board are the implementation of public control, development of recommendations for transparency assurance of the work of state agencies and power companies either, development of guidance documents on estimation of transparency indicators, etc.

Permanent work is in progress with the biggest financial organizations (World Bank, ADB, Islamic Development Bank, etc). The cooperation with these organization is focused on the financing of new investment projects, assistance in reconstruction and modernization of existing and implementation of the next projects: “Improvement of efficiency of power distribution system”, “recovery of local-area network in Bishkek”, “urgent aid to energy sector”, “construction of Kambarata hydro-power station-2”, “Improvement of power supply of gold ore deposit Kumtor”, improvement of power supply in Talas province, “urgent aid to energy sector of the Kyrgyz Republic”, “Modernization of power lines in the South of Kyrgyzstan”, “Energy sector development”, “Improvement of power supply in Bishkek and Osh”, “Emergency intervention”, “Technical assistance for gas industry”, “Construction of high voltage power transmission line”.

There are results of successful pilot energy saving projects. Due to the introduction of new technologies in school for 850 students in Osh, the consumption of energy is reduced by 50%. Significant effect is observed after reconstruction of medical mid-wife stations in the villages of Chui and Naryn provinces. UNDP and GEF Project «Development of mini hydro-power plants» installed photo-electric devices as they call “solar batteries”. The power of each device 1,5 kVt is enough for the main electric appliances and lighting in a small medical mid-wife station. Before, during the power cuts these medical stations were left without expensive medicine and vaccines and had problems with the medicine storage caused by the cuts of medical fridge.

The existing legislative base in the country promotes the development of energy saving and RES-PPЭ. A number of relevant laws had been passed:- energy saving strategy and energy efficiency policy up to 2017; concepts of mini-power stations development up to 2017.

### **c. Relevant national energy policies/programs**

#### **1. The National strategy for the period of 2013-2017 on sustainable development of Kyrgyz Republic identifies the main goals and priorities of the future of the country:**

Strategic vision of Kyrgyzstan in long term is a strong and independent state among the developed countries, comfortable for people, providing protection of their rights to liberty and security, multi-lingual and friendly in-country environment, compliance with the law, high level of education, healthy environment, public stability, international image of wealthy country, sustainable growth of economy and high investment attractiveness

One of the objectives of the implementation of the state policy is an increase of energy efficiency and decrease of losses especially heat and electrical energy as well as the facilitation of renewable power sources

Implementation of the Strategy helps Kyrgyzstan substantially to make great steps to gain the energy independence and make serious demand to have in the nearest future the status of a big electrical energy exporter

#### **The Goals of the National Strategy on sustainable development:**

- Provide sound power supply, first of all for inland consumers in Kyrgyz Republic.
- Introduction of tariffs, covering the expenses for energy production.
- Strengthen the finance discipline and improve the level of management,
- Reduce commercial and technical losses,
- Strengthen the energy and economic security,
- Provide competitive advantage of Kyrgyz Republic on energy export markets in the region,
- Provide motives for investment to energy sector.

**Energy** – is strategic sector, having a direct effect on living standards and all the sectors of economy. Taking into account that the crucial role in developing of energy platform of Kyrgyz Republic is given to hydro-energy, the ratio of which in total capacity of energy resources accounts 52,6%, therefore this course of development of the energy sector is defined as prioritized one in socio-economic development of the country for mid-term and long-term periods. The share of this sector is about 2,0% of GDP, which is 16% of the industrial production output and incomes 10% go to national budget.

**Coal-mining industry.** Explored reserves of coal are 1,3 bln. tons, pre-estimated reserves – about 2,0 bln. tons. Geological reserves and forecast resources of carbonize coal are 260 mln tons, which allow to start its exploration and plan the construction of coke processor.

**Gas and Oil producing industry.** Explored reserves of oil accounts 97,4 mln. tons, extractable -11,6 mln. t, gas - 4,9 bln. cub.m. On the territory of Jalal-Abat, Osh and Batken provinces about 15 oil and gas deposits are being explored.

## **2. Kyrgyz Government Decree, dated May 28, 2012 N 330 «On mid-term strategy of electrical energy industry of Kyrgyz Republic for 2012-2017».**

Kyrgyz Republic possesses adequate fuel-energy resources, but the potential possibilities of fuel-energy complex (hereinafter - FEC) are implemented unsufficiently, and this sector gets into financial and economic difficulties. Dependence of the country on the import of energy products and the proportion component of these products is about 50% out of the total energy consumption. All this has a negative impact on the performance of FEC and other sector of economy.

The Strategy is developed in accordance with the legislation of the Kyrgyz Republic, which regulates the Fuel Energy Complex of the country. This Strategy foresees complete and reliable power supply of the consumers on the base of introduction of innovative technologies, substantial increase of effectiveness of its functioning.

**The purpose of present Strategy** – assurance of sustainable economic growth and development of electrical energy sector of the country through the strengthening of energy and economic security, finance and economic recovery as well as the competitive advantage of the Kyrgyz Republic on the regional energy export market due to the increase of generating and transmitting capacities by technical repowering.

The major task of the Strategy is to ensure the energy security of Kyrgyz Republic.

The vision of Strategy is a stable and sustainable energy system of the country with new innovative technologies, effective and qualitatively new Fuel Energy Complex.

The measures on implementation of this Strategy are directed to solve the assigned tasks and include three parts-:

- 1) political measures to have possibilities for effectuation of investments;
- 2) investment measures required to implement the Strategy in the period of 2012-2017;
- 3) steps for regional cooperation and export-import operations.

## **3. Program of the Kyrgyz Government on energy saving and planning of energy efficiency policy in Kyrgyz Republic for 2015-2017.**

The main step in implementation of this policy is accounting and monitoring of fuel-energy resources (FER) output by equipping of all categories of energy products by the appropriate instruments and systems.

The Reserve to decrease the losses of FER is a modernization and replacement of energy consuming equipment in economy sector. This way one may gain 20-25% of economy on electrical energy and 10-15% economy of heat energy due to :-

- location of energy-intensive industry companies relatively closed to fuel deposits and power stations;
- decrease the power consumption of the industrial production, due to improved quality of processing of materials and using waste recycling;
- reduce heat energy consumption due to the energy performance building ;
- using on the final stage of consumption more effective and ecologically clean energy products.

It will require the stable investment and legislative and regulatory framework, skilled, qualified personnel, involvement of consumers and producers into an energy saving activity due the large scale information campaigns.

To have a maximum effect from the energy saving policy it is important to strengthen the international cooperation in energy saving. Coordinated international efforts in energy saving will help to provide an effective information exchange about the last achievements in energy saving and promote the most effective ways to save the energy.

Under the constraints of funds and in order to increase of energy saving activities by the consumers, the important role to secure the progress in creation and implementation of energy saving policy is given to control and management of consumer's demands for fuel energy resources. To achieve the goals of Program, the 4 strategic priorities are identified.

**First priority.** To secure in 2017 the total saved energy up to 2,23 mln. tons of reference fuel (t.r.f.) through qualified, organized and management support of energy saving process in the country.

**Second priority.** To secure in 2020 total saved energy up to 4,1 mln. t.r.f. through stimulation of development and using of energy saving methods, technologies and materials during the production/generating, transmission and consumption of energy and gas.

**Third priority.** Reduction of power intensity by 30% and annual power consumption up to 5%, to have saved energy up to 8 mln. t.r.f., due the structural reforms of economy for the period of 2015-2025

**Fourth priority.** Improvement of ecological situation in the country due the reduction of greenhouse gas emmissions in CO2 equivalent up to 20%, in accordance with assumed responsibilities of the Kyrgyz Republic; Take steps on energy saving and introduction of renewable energy sources, energy saving of the real sector of economy by planning and control of energy intensity of GDP on macro level, decrease of energy resources consumption for production industry and service industries.

In the period of 2015-2017 it will requires the implementation of activities of technological, management and scientific-technical characters taking into account the present real situation (a lack of investments, economic interest in energy saving). The stress will be on the relatively low-cost activities, but giving high effective results in the future.

The positive effect of introduction of the Program will be implementation of a set of mechanisms of government control for the effective and rational usage of energy resources, which will help thrifty and rationally to use state funds allocated for payment of municipal services, subsidizing of budget fund for population using the heat energy, carry out monitoring and control over the implementation of activities on energy saving, which will bring us to gradual decline of energy emergency in economy sector of the country

#### **4. Project Strategy of development of renewable power sources of the Kyrgyz Republic.**

This strategy defines the main directions, goals and tasks of renewable power sources development in the country for the period up to 2020. The Strategy considers the objective

implication and shapes the main ways of development of renewable power sources: sun, thermal energy, wind, biomass, and water energy, which are considered to be the important resource of sustainable development of energy security of the country.

**The purpose** of the Strategy is a study and creation of environment for comprehensive development of renewable energy sources.

Kyrgyz Republic possesses great resources of renewable energy, mostly hydro-energy, additionally the energy resources can be increased due the sun energy, wind, biomass, etc. Due to the seasonable character of the work of renewable energy sources installation, its full scale maintenance will be possible in case export of excess energy in summer, which will require the further development of mechanisms for international cooperation and regional market. All this will promote to use full potential of renewable energy of the country. Kyrgyz Republic can be the regional center on export of clean electric energy and make substantial contribution to solve the climate change problem. Under the full scale of development and using of renewable energy potential in Kyrgyz Republic, the clean energy from the renewable sources can replace the energy obtained from the fossil fuel not only in the Kyrgyz Republic, but in other countries of the region by exporting of electrical energy within the framework of implementation regional project on clean electrical energy exporting. This way the ecological environment of the region is to be improved as well as the success in global withstand the climate change.

#### **5. Kyrgyz Government Decree "On mid-term tariff policy for electrical and heat energy for the period of 2014-2017 ", dated June 17, 2014, № 336.**

The mid-term tariff policy for heat energy for 2014-2017 was based on the existing principles and approaches to tariff setting to be closed to prime cost of the heat energy, which secure more smooth increase of socially orientated tariff and allows to take into account the energy saving features of people living in high mountain area and hard-to-reach areas.

This Tariff policy is based on the following principles:

- tariffs should cover all expenses of heat delivering companies on production, transmission, distribution and selling the heat energy;
- subsidies should be target-focused and directed to consumers of heat energy (population) with low income through government social protection programs.
- expenses for production, transmission, distribution and realization of heat energy should include: operational costs, technical maintenance and reconstruction of heat network; realization of heat energy and hot water, including the expenses for installation of metering instruments and its service; normative (technical) losses of heat energy in the network of heat supplying companies, and also normative consumption of heat and water for its own needs; depth servicing expenses; expenses for capital investments; driver of profitability (driver of profitability included to tariffs will encourage the investments by companies, which are required to increase the efficiency of work and low down the expenses);
- cross-subsidization between the electrical energy consumers and the heat consumers from the centralized heat supply systems should gradually eliminated.

#### **6. Preliminary Concept Note "Development of energy of the Kyrgyz Republic for the period up to 2030"**

The Concept was developed in accordance with the Laws of KR "On Energy", "On electrical energy", "On oil and gas", "On coal", "On energy saving", "On renewable energy sources", which regulate the work of Fuel-energy complex (FEC) of the country. Kyrgyz Republic possesses enough fuel-energy resources (FER) but the potential possibilities of FEC are implemented insufficiently. FEC of Kyrgyz Republic is the major sector to secure the sustainable socio-economic development of the

country, but at present it is in crisis situation. The assessment of the state energy policy shows threats to energy security of the country, including the regions impacted by internal and external factors. One of the main external factor related to disintegrated processes in Central Asia region apart from the growth of the world prices for hydrocarbon fuel is a loss of position of KR to control water-energy resources (WER) in the basin of rivers Naryn and Syrdaria. The internal factor of the threat cause is an irrational structure of Fuel Energy Balance FEB of the fuel-energy balance (FEB) of the country. The Kyrgyz Republic possesses enough fuel-energy resources, including the sufficient reserves of coals and about 30% of hydro-energy resources of Central Asian regions (CAR). The potential possibilities of FEB are implemented unsufficiently. The share of energy import in FEB framework is 21,4%, which causes a negative impact on the reliability of energy and fuel supply in the country and its regions.

Kyrgyzstan has a high gross potential of hydro-energy reserves, which are formed in flow-off river basins and estimated by Water Problems Hydro Energy Institute of Academy of Science of KR by 245,2 bln.kWh and out of this figure only 142,5 bln. kWh are technically feasible, but economic or production potential account only 60 bln. kWh. In the country there is a substantial potential of renewable energy sources and the main sources are the energy of small rivers and water courses, solar energy, wind, geothermal water energy and biomass energy. In the regional cross section, the problems of energy and fuel delivery are sizable, and the provincial administrations as well as the local administrations are not able to secure the energy security. The energy security in the regions of the country needs urgent solution due to the development of the local coal deposits; implementation of energy saving policy by low-cost methods, increase of energy saving measures, public buildings and residential houses, reduce green house emissions to environment; development of activities for reconstruction of boiling houses and construction of the local heat supply systems.

## **7. The Sustainable Development Goals (SDG)**

2015 was a historical year from the point of view of approval new global goals in sustainable development sector. And at present the NatStatCom of KR is taking active part in the process of monitoring development of the future global monitoring indicators of SDG.

Within the framework of SDG activities up to 2030 the future national indicators are being identified. Kyrgyzstan is intended to implement SDG taking into consideration the national peculiarities of development and according to the financial possibilities. For SDG, the most prioritized objectives are as follows: energy, economic growth, food security, quality of education, healthcare, poverty reduction and environmental management.

SDG 7 related to energy is aimed to “secure universal access to cheap reliable, stable and modern energy sources for all”.

The problem of water-energy relationship in Central Asia requires special attention. After the collapse of the USSR, disintegrated processes started to take place in Central Asia. Agreed orders for water and energy exchange were ruined. Despite this, Kyrgyzstan continues to accumulate water in its water reservoirs, while as the prices for energy resources supplied from the neighboring countries were growing year by year. Under these conditions, Kyrgyzstan had to start generating the cheap and clean energy on its hydro-power stations to feed the population with heat and energy. Today the Central Asia had significant potential to switch for ecologically clean electric energy. Implementation of project for construction of hydro-power stations in Kyrgyzstan and Tajikistan could fully cover the energy needs of Central Asia countries, and thus, to create good conditions for sustainable development of the whole our region. All this is in exact accordance with the Goal 7 of sustainable development concerning cheap and clean energy.

### **d. Major national energy statistics databases/publications**

Every year the relevant departments of the NatStatCom of KR release books: “Industry of the Kyrgyz Republic”, “Foreign trade of the Kyrgyz Republic”, “Living standards of population of the

Kyrgyz Republic”, information bulletins on Fuel-energy balance and “Producers prices for the main industry production”.

NatStatCom also issues the following publications with energy statistics:- “Kyrgyzstan in figures”, “Abstract statistics book “Kyrgyzstan”, Statistics Year Book of the Kyrgyz Republic.

Fuel-energy balance data, issued by the department of industry and energy statistics are published at the end of November.

Information is posted on the website of NatStatCom <http://www.stat.kg> in section “Publications” .

#### **e. Financial and human resources devoted to the collection of sustainable energy statistics**

State statistics system of the Kyrgyz Republic includes : -

- National Statistical Committee of the Kyrgyz Republic;
- territorial state statistics agencies established by the NatStatCom of the Kyrgyz Republic in provinces, towns and counties;
- other subordinated state statistics units – companies, organizations and institutions, authorized by the NatStateCom in accordance with the legislation of the Kyrgyz Republic for implementation of its functional activities.

The total staff size of NatStatCom system, including its all territorial and subordinated state statistics agencies in 2016 was 848 people.

In the central office of NatStatCom, the energy statistics is developed by the industry and energy unit with staff size of 5 people. 9 people are busy with the collection and entry of data on statistics and energy in territorial state statistics divisions.

Information is processed by 5 people of industry and fuel-energy balance department of the Central Computer Center of NatStatCom. For estimation of the fuel-energy balance, the data on export and import by types of the fuel are used, and 17 people are involved in this work (Central Office, CCC and the territorial statistics agencies).

#### **f. Major statistical improvement programs underway or planned**

All works on collection, entry and processing of information are performed in accordance with Annual program for statistic activities, funded due the state budget funds.

Every year NatStatCom develops together with central government authorities and other interested agencies the annual Program of Statistical Activities. This Program is considered to be the legal base for implementation of statistical activities in the course of a year.

At the same time with the statistic activities Program, NatStatCom develops and approves long-term programs on the development of the state statistics (Program for improvement of statistics f2015-2019, Statistics development Strategy, etc.). At present the 6th Program for improvement of state statistics development of the Kyrgyz Republic for the period of 2015-2019it is adopted and active and approved by Kyrgyz Government Decree, dated March 24, 2015г. №144.

The Program for improvement and development of state statistics of the Kyrgyz Republic for 2015-2019 (hereinafter - Program) is the main program document, identifying the main strategic directions for the development of statistical practice and methodology in the Kyrgyz Republic for the upcoming five-year period. The main goal of the Program is to increase the effectiveness of the national information statistical system based on the improvement of legislative base, introduction of advanced information-communicational technologies for integration of processes of statistical production,

increase quality of releasing data and trust of users to these data, and also the increase of statistical intellectual potential.

The main result of the implementation of the Program will be the formation of the stable mechanisms of realization and coordination of the state policy in statistics sector will help the following :-

- increase of the role of NatStateCom as an activity coordinator of official statistical recording and inter-departmental information cooperation;
- secure optimization of information flows and avoid parallelism and doubling in the work of the state statistics ;
- decrease of finance and labor costs, increase of operational efficiency of data production due to the automation of most of the business processes ;
- decrease respondents burden;
- positively (at the last) make difference on the time of processing and the quality of official statistical information;
- secure the transfer for qualitatively new level to serve the users.

### **3. Sustainable energy statistics in Kyrgyzstan**

#### **a. Summary of completeness/quality of basic energy statistics**

To improve the organization of statistics of industry, one may require to implement a number organizational and methodological activities on updating of energy statistics. Taking into consideration the urgency of problems related to the energy as strategic sector and directly having an impact on the level of living standards of population as well as the all economy sector, it is required to improve the existing system of monitoring of fuel-energy resources consumption. For the statistical recording in energy statistics there were developed 6 forms of statistical reporting with monthly, quarterly and annual periodicity. Also statistic data on households are used, where the surveying of households are carried out on quarterly basis. The size of sampling is 5016 households.

The data on export and import by types of fuel are taken in the foreign trade statistics department and then verified with the data of the report submitted by the active entities. Information on import and export is collected on the monthly basis with time lag of one month. In price statistics one may find daily monitoring of prices for special social goods, and oil&petrol in 18 residential areas (including 2 towns of national status and 2 villages).

***The quality of energy statistics is characterized by the following criteria :- :***

***Timeliness:*** publication of statistical information is carried out according to the schedule of statistical works, and which is approved on the annual basis.

#### **Monthly reporting:**

- Data on production and mining operations is delivered by respondent on the 1<sup>st</sup> day after reporting month. Official data are published on the 15<sup>th</sup> after reporting month.
- The publication on import and export of energy resources is available on the 22<sup>nd</sup> day after reporting month and the final data – on 38<sup>th</sup> day.
- Price statistics data are published on the 10<sup>th</sup> day after reporting period.
- For price statistics, daily monitoring is performed for the main socially desirable goods, food and oil/petrol, and also the level of consumer price index in the country is published on weekly

and monthly basis. Monitoring of prices for food security in KR is published on the monthly basis».

- On statistics on households budget - the surveying is carried out on a quarterly basis. Data on welfare of households are prepared once a year by Form №7 «Personal property and living facilities», where data are collected on energy consuming, community facilities and cultural/domestic needs (using energy sources for cooking). Information on energy source for cooking depending on the place of residence and level of poverty of households is published in annual register “Living standards” which issued every year in November.

#### **Quarterly reporting:**

- Report on fuel stocks – prior to 30<sup>th</sup> after reporting period.

#### **Annual reporting:**

- On production and mining operation - in July after finishing of reporting year .
- Fuel-energy balance – in November after reporting year.

#### **Periods of time:**

Statistics on production of types of energy are available on the official website of NatStatCom starting from 1990. The most earliest data are paper-based starting from the soviet period. The last data on types of energy are given in publication “On socio-economic situation in KR” for February 2017.

The statistics on import and export by type of fuel are posted on the site since 1992 by value and volume. The most earliest data are on paper-paper based version.

Data on average prices are available since 1992 and on the site of NatStatCom and published from 2003. The latest data were published in February 2017.

#### ***Completeness***

On energy statistics – complete set of data without gaps from 1990 .

On import and export statistics – complete set of data from 1992 .

On average price statistics – complete set of data from 2003.

On household budget statistics – complete set of data from 2010.

#### ***Accessibility***

The whole statistic information as well as the methodological information is accessible through public data base on the official site of <http://www.stat.kg>.

### **b. Summary of completeness/quality of statistics on access to modern energy**

The general objective of the national strategy of country development is an increase of the level and quality of life of people by securing the sustainable economic growth, creation of conditions for meaningful employment, having high and stable profit, accessibility to wide scale of social services, meet high living standards in favourable for health environment. One of the main priorities of the sustainable development is a sustainable energy.

Without access to modern energy sources it does not seem possible to reduce poverty, improve the health and have the certain level of education. The sustainable energy causes the socio-economic development, offering the possibilities of improvement of the life and economic progress of the country.

The problems of human and social development take the central place in the state policy of Kyrgyz Republic. These problems include the assurance of possibilities for population, decent work and gain a good education, health security for people, protection of vulnerable categories of people, active participation of people in the cultural life.

Housing improvements characterizes as well-being standard of household and people living in it, infrastructure, giving a possibility to use the main comforts of civilization. The level of housing improvements between the urban and rural households is substantially different.

Poor households and households located in rural area have less convenient housing. The electricity is the only convenience covering the whole territory of the country. The availability of electrical network is not yet to have an uninterrupted access to power supply by population. According to the results of surveying of the quality of energy delivering services in 2015, one may judge from the feedback of population about the power cut periodicity. According to the results of surveying, only 11,8% of households had uninterrupted power supply, while 64,4% had power cut several times a year and 0,5% had daily power cuts. 28,5% of urban households were equipped with central heating system and only 0,4% for rural households. It shows essentially urban orientated character thanks to central heating supply system. 19,9% of households of the country have an access to gas pipe line, out of this figure 46,8% are urban households and 5,3% are rural households. Insufficient gas network spreading within the territory of the country shuts out to centralized gas supply system practically for the whole rural population of the country. For cooking, population of the country use the energy sources, like gas, electricity, solid fuel. In urban 45,4% of rather well-to-do households use gas oven connected to central gas pipe line, while as 41,6% of poor households and 57,7% of very poor household use electric hot plates. In rural area 46,6% of very poor and 47,0% of poor households for cooking use solid fuel.

#### **Quarterly reporting:**

Household budget surveys are conducted on a quarterly basis.

In the questionnaire No. 2 "Incomes and expenditures of households" there is a section "Housing and communal expenses of households", where the expenses of the population for electricity are indicated.

#### **Annual Reporting:**

Information on living standards of population is published in November-December on an annual basis. Data on the welfare of households are compiled in the questionnaire No. 7 "The ownership of personal property in the household and housing conditions," that includes information about the access of population to electricity, centralized heating and gas supply.

#### **Periods of time:**

The information on frequency of power cut depending on a place of location of households on disaggregated basis by urban / rural settlements has been published since 2005. Complete data set is available since 2010.

The share of average per capita expenses for heat and electricity by territory is available since 2009. This information is released on the publication "Population Living Standard"

The latest data on access to various improvements by type of energy were released in the annual publication "Population Living Standard", which is issued in November of next year. The last publication includes data for the period from 2011 to 2015.

#### **Completeness:**

According to household budgets statistics, the complete set of data is available since 2010.

## **Accessibility**

All information is available on the official website of the National Statistical Committee of the Kyrgyz Republic <http://www.stat.kg/> Official statistics / Population Living Standard/ Publications.

### **c. Summary of completeness/quality of statistics on energy efficiency**

The requirements in energy saving and energy efficiency are defined by the laws of the Kyrgyz Republic “On energy”, “On electricity industry”, “On energy saving” and “On energy performance of the buildings”.

The share of public-utility sector has significantly increased and the share of industry and agrarian sector has decreased in the structure of consumption of fuel and energy resources (FER) by sectors of the economy.

As of today, the main factors constraining the implementation of energy-saving measures in budget organizations are the lack of incentive mechanisms for energy efficiency and the lack of financial resources for their implementation. Annually, more than 1.3 billion soms are allocated for public services from the state budget, which is about 8% of the total state budget expenditures and 1.5% of GDP.

The important step in implementation of energy saving policy is to ensure that fuel and energy resources are accounted and monitored by equipping all categories of energy utilities with appropriate equipment and systems. In 2015, the Government of the Kyrgyz Republic approved the Program on Energy Saving and Planning the Energy Efficiency Policy in the Kyrgyz Republic for 2015-2017.

The goal of the Program is to ensure GDP growth by 2017 without significant increase of the rate of fuel and energy resources consumption by enhancing the energy saving capacity in the production, transmission and consumption of energy resources, improving the quality of life of population and energy efficiency of the economy, as well as reducing the negative impact on environment.

From 9 indicators considered in Annex 3 that are related to energy-efficiency, the major part is not available and are not developed in the National Statistical Committee due to the absence of data. Data on energy consumption per unit of gross domestic product and per unit of value added in the industrial sector, the average efficiency of the heating capacity of generating stations, as well as the energy consumption by type of transport are not developed.

Transmission and distribution of losses as a part of electrical and energy production indicator is considered in the National Statistical Committee within the fuel and energy balance as an electric energy losses. The latest data released for 2015 are published on the website since 2011.

#### **Annual reporting:**

- Fuel and Energy Balance bulletin is released in November-December after the completion of the reporting year.

#### **Periods of time:**

The information/indicator on electric and energy losses is provided on the official website of the National Statistical Committee of the Kyrgyz Republic starting from 2011. The latest data for 2015 are published in Fuel and Energy Balance bulletin and in the section "Dynamic Spreadsheets" on the website of NatStatCom: [www.stat.kg/Statistics/Industry/Dynamic Spreadsheets](http://www.stat.kg/Statistics/Industry/Dynamic%20Spreadsheets) .

## **Accessibility**

All information is available free through a common electronic database on the official website of the National Statistical Committee: <http://www.stat.kg> .

Information on Investments by types of economic activities and funding sources is published on a monthly basis and in the yearbook "Investments in the Kyrgyz Republic" that is also available on the website [http://www.stat.kg/ Statistics / Construction](http://www.stat.kg/Statistics/Construction). The publication is released in September after completion of the reporting period. Data on investments are posted on the website since 1991.

**Monthly reporting:**

The latest monthly information on Investments by types of economic activity and funding sources is released on the 15th day after the reporting period.

**Annual Reporting:**

Information on investments is published in the yearbook "Investments in the Kyrgyz Republic".

**Periods of time:**

The publication is released in September after completion of the reporting period. Data on investments is posted on the website since 1991.

**Completeness (coverage):**

The full set of data without gaps is available since 1991.

**Accessibility:**

All statistical information and information on methodological provision is available free through a common electronic database on the official website of the National Statistical Committee [http://www.stat.kg/Statistics / Construction](http://www.stat.kg/Statistics/Construction).

There is no information on public sector investments in energy efficiency technologies.

Statistics issues related to the energy efficiency are processed upon request of users by calculation method. The data on energy consumption per added value unit on sectors, the average efficiency of heat capacity of generating plants, and also energy consumption by types of transport are not developed.

**d. Summary of completeness/quality of statistics on renewable energy**

The renewable energy sources are to be prioritized objectives of energy development throughout the world. The rate of investment increase in the development of renewable energy sources is going at rapid fire pace. The annual investments for the development of renewable energy sources exceed 200 bln. USD, and include scientific-research and innovation activities, production and installation of engineering equipment, development of consultancy activities, and also other sector of activities. Projects on the development of renewable energy sources cover the great scales. The modern solar and wind power stations gain the capacity within severers hundreds and even thousands of MWt. At the same time, the prices for these technologies are permanently being decreased and the power generating is to be accessible. Therefore, the renewable energy is becoming the mainstream of the energy throughout the world.

At present, the energy security of the Kyrgyz Republic is secured generally due the hydro-energy resources and fossilized fuel and products of its processing, although for the last years the increased deficit, related to the increased energy consumption is being observed. This deficit caused

the necessity of import of electrical energy by high prices, all this made a point of using the local renewable energy sources.

At full scale development and using the potential of renewable energy sources in Kyrgyz Republic, the clean energy from the renewable sources can replace the energy, which was processed from the fossilized fuel. The clean energy can be used in other countries of the region by the export of electrical energy within the framework of implementation of the regional projects on clean energy export, improving the environment security and also to make a contribution to global climate change resistance. Therefore, the substantial factor of renewable energy sources development in the country can be as a transfer of these innovative technologies and call for funds and technical assistance from the international climate funds and also the joint international exploration of renewable energy sources potential.

At first, the development of renewable energy should be implemented due to the private investments. The role of the state is to create the attractive investment climate and conditions for the investor to have the required information, normative legal base and legislative platform, to simplify permit procedures for designing and construction, promote the market situation and establishment of financial mechanisms.

One of the tasks of the government is to study the potential of renewable energy sources and identify the most proper locations for its maintenance. As of today, the energy potential of small and medium stream flows need to be specified. The assessment of energy potential and location of promising places for construction of installations to use solar energy, wind and other unconventional renewable energy sources should be identified by help of modern technologies, including the meteorological models and long-term satellite data.

Using the possibilities of renewable energy sources is the main objective of the development of the energy sector in the country, which requires the assistance and participation of other sectors of industry to gain the goals of sustainable development of the country.

Practical using of renewable energy sources except the hydro-energy is not substantial and in energy balance of the country it accounts about 1%.

At present, there is a possibility to construct 92 small hydro-power plants with the total capacity 171 MWt and average annual generation up to 1,0 bln kWt/h. 39 small hydro-power plants are to be reconstructed with the total capacity 22 MWt and average annual generation up to 100 kWt/h. A number of proposals are drafted on construction of 7 hydro-power plants on irrigation reservoirs with nominated capacity 75 MWt and average generation about 220 mln kWt/h.

Kyrgyz Republic possesses great potential of solar energy, which is not enough studied today. According to the assessment made by experts, the solar energy potential can meet the consumer needs with hot water by 90% for 8-9 months and for heating up to 50% which is 5-6 months during the heating season, and manage backup power supply for 30% of rural population with the purpose to save the traditional fuel (electrical energy, coal, fire wood)

The solar energy can be used at full scale for hot water supply in winter and summer periods .

At present, the solar energy mostly used for hot water supply using the solar water heating equipment. Photovoltaic equipment is used only in small quantities for small capacities 50 Wt – 3kWt.

The potential of wind energy and geothermal resources is not enough studied.

Special consideration should be taken on the using of farm animal wastes to have biogas. The wide usage of biogas installations will help to solve energy and social problems, and also to have rich fertilizer for agriculture. The potential of farm animal wastes when processing 6,5 mln t. of wastes will help to get about 15 mln t. of bio-fertilizer, which will be enough to fertilize farm lands of the country and above 270 mln. m<sup>3</sup> of biogas to feed 35 thousand rural families with 5% of biogas for heating and cooking, or 150 thousand of rural families (20% of rural population) for cooking.

The statistics on renewable energy sources in NatStatCom are processed only on hydro-energy production, which is more than 90% out of the total generated electrical energy..

Information and statistics on the total delivery of primary energy by the type of renewable energy sources, capacity of renewable energy sources, the investments to capacity of renewable energy sources, the price of unit of renewable energy generation is not available.

In the State Committee for industry, energy and subsurface management of the Kyrgyz Republic in August 2016 there was established a new department for the development of renewable energy sources and energy saving with the staff of 4 people working on a regular basis, which are working on the problems of the development or renewable energy sources.

**Monthly reporting:**

- Data on total volume of hydropower production are provided by respondents on the 1st day after the reporting month. Official data are published on the 15th day after the reporting month.

**Annual Reporting:**

Annual data are published in the yearbook "Industry of the Kyrgyz Republic", which is released in November after completion of the reporting period.

**Periods of time:**

Statistical data on electricity generation produced by hydroelectric power plant (HPPs) are available on website since 2006. The earlier paper-based data are available since the Soviet period. The latest data on electricity production were published in the yearbook "Industry of the Kyrgyz Republic 2011-2015".

**Completeness:**

There is a complete set of data starting from 2006.

**Accessibility:**

All information are available free through a common electronic database on the official website of the National Statistical Committee [http://www.stat.kg/ Statistics / Industry](http://www.stat.kg/Statistics/Industry) .

The information on total volume of primary energy supplies, on the installed capacity of renewable energy sources, on investments in the capacity of renewable sources, on the cost of a unit of renewable energy generation are not available.

**4. Recommendations for the improvement of sustainable energy statistics in Kyrgyzstan**

**a. Prioritized list of gaps in sustainable energy statistics**

- List of necessary sustainable energy statistics indicators is not adopted at national level; is not defined concrete roles and obligations, as well as responsibilities of relevant institutions, related collection and calculation of necessary data.
- Certain number of indicators is not available and is not possible to calculate, due to the lack of necessary data.

**Comment:**

For example, energy consumption for output production: there is an indicator of energy consumption in production and the indicator of output production in total, but it is impossible to calculate how much energy is spent on the production of this or that product. The final consumption of the housing sector: there is an indicator "Household expenditures on electricity", which is collected from the data of integrated household survey, but these costs do not describe how much energy is spent on heating, cooling, hot water, lighting, cooking processes, using of household appliances

- Not all indicators are publicly available via web-page (even those, which exists or can be calculated easily), but can be accessible upon request. Therefore accessibility of certain number of indicators is not high, as significant part of them are not publicly available in electronic database, managed by the national statistical office

**Comment:**

All developed indicators are available on the NSC website in aggregated form. At the same time, there are indicators that we can not publish due to its confidentiality.

*There are a lot of requests on indicators of each enterprise, but according to the Law of the Kyrgyz Republic On State Statistics, Article 19 Ensuring the confidentiality of statistical information: "Primary statistical data that permit the direct or indirect identification of a particular individual, household, enterprise consisting of individuals or a specific legal entity implementing its activity in the private sector of the economy, or disclosing information on this individual unit are considered to be confidential."*

- Lack of metadata document and the availability of information to help users understand the statistics: for the majority of indicators only incomplete and not systematized metadata document is available. Moreover, in most cases they are not published on web-page and is calculated and accessible only upon request.

**Comment:**

In general, there is no metadata system in the National Statistical Committee. Before and now the National Statistical Committee provides metadata within the SDDS (a special data dissemination standard developed by the IMF). At present, the National Statistics Committee together with Statistics of Norway is implementing the project related to creation of a metadata system throughout the statistical system. This system includes classifications, the Unified State Register of Statistical Units (USRSU), forms of statistical reporting, databases, the definition of variables, all information on statistics. The end result of this activity will be the introduction of electronic forms of statistical reporting..

- Availability of complete methodology documents: information on the methodology used to compile the statistics, as well as for calculation of indicators exists, however they are not combined and structured well.

Moreover only part of them is available on web-page.

**Comment:**

For example, the methodology for calculating the GDP Power Intensity and per capita energy consumption, the energy intensity of production of certain types of economic activity, GDP Power Intensity and the volume production of certain economic activities are not posted on the NSC website due to the great scope of information and difficulty to understand this methodology by users. In order to have the final result it is necessary to have data on all statistical domains; but the primary data are confidential.. The methodology for calculation of physical volume index and the methodology of fuel and energy balance are available on the website of NSC in the section "Industry".

- Not sufficient financial and human resources are also challenging.

**Comment:**

The National Statistical Committee is a state body and is financed from the state budget and therefore in accordance with the structure of the Central Office of NSC approved by the decree of the National Statistical Committee of the Kyrgyz Republic , and according to the approved staffing only five people are working in Industry and Energy Statistics Department. But at present, there is no personnel who would deal only with energy statistics. There is also a high turnover of staff due the large scope of work and low wages in the statistical system. It takes a lot of time to fill out international questionnaires on industry and energy. There is no funds to conduct certain types of surveys (e.g. on renewable energy source and housing energy consumption), which would improve the completeness and quality of energy statistics.

**b. Means to overcome the main obstacles standing in the way of improving sustainable energy statistics**

Taking into account the problems related to energy as a strategic sector that directly affects the living standard of population and all sectors of the economy, it is necessary to improve the existing system of surveys of fuel and energy resources consumption. In accordance with the Program for the Improvement and Development of State Statistics of the Kyrgyz Republic for 2015-2019 it is required to implement a number of organizational and methodological activities to improve the energy statistics.

**The gap analysis is followed by the recommendations for improving information on sustainable energy statistics, which is listed below:**

- Building the communications between ministries and agencies to obtain the administrative data and use them in the work and improve the statistical reporting forms on energy.

**Comment:**

The most important task to use the administrative data for statistical purposes is the establishment of the system of interaction of the National Statistical Committee with the state bodies in the process of development and maintaining the administrative information systems with mandatory application of general classifications, nomenclatures, identifications and classification of units.

As of today, in the view of implementation of tasks on monitoring and achieving the SDG, the NSC is actively cooperating with all ministries and agencies to identify the availability of SDG indicators taking into account the national characteristics and its compliance with the international standards as well as the possibility of development of a new indicators. Further on, the new indicators will be included in the statistical reporting forms and be used to build the system for statistical data monitoring.

- Improvement of the methodological and regulatory framework.

**Comment:**

Within the framework of building SDG indicators, NSC will work jointly with ministries and agencies of the Kyrgyz Republic in order to develop and improve the methodological and regulatory framework.

- It is recommended to continue compilation and publication of official energy balances annually, to improve use of energy statistics data and encourage the development of energy efficiency indicators in close cooperation with international experts and representatives of relevant institutions in KR.

**Comment:**

The Industry and Energy Statistics Department of NSC within the framework of cooperation with international organizations such as UNIDO, IEA, the European Union (INOGATE program) improved the statistical questionnaires on fuel and energy balance. In accordance with the recommendations of IEA experts, the works on improvement of the quality of questionnaires completion are continued. Currently, the NSC completes the following questionnaires:

Joint questionnaire on energy statistics (IEA / Eurostat / UNECE);

Questionnaire on Gas and Oil within the framework of joint initiatives related to data on gas and oil (UN Statistical Division);

Questionnaire of the International Renewable Energy Agency (IRENA);

Questionnaire (UNIDO);

Questionnaires on use of fuel and energy resources (Eurasian Economic Commission).

- Conduct inventory of all indicators on energy statistics. Revision of statistic reporting forms taking into account the SDG 7 for the development of new indicators for its adaptation on the national level.

**Comment:**

As of today the NSC, within the SDGs monitoring, actively cooperates with all ministries and agencies of the Kyrgyz Republic to identify the availability of SDG indicators taking into account the national characteristics and its compliance with international standards as well as the possibility of developing new indicators. The new indicators will be included in the forms of statistical reporting and be used in creation of statistical data monitoring system.

- Workshops – trainings on capacity building with participation of ministries and agencies.

**Comment:**

NSC conducts trainings and seminars, economical trainings for representatives of ministries and agencies including the staff of the statistical system to improve the quality of knowledge and skills on energy statistics, better interpretation, qualitative collection and filling in the statistical reporting forms.

Industry and Energy Statistics Department staff has the opportunity to attend the seminars and trainings organized by international organizations, which definitely affects the quality of knowledge and work performed.

- Study users demands, provision of information services to users and making direct contacts with respondents, interaction between the producers and users of statistical data to inform about the needs of users, ideas, recommendations and arranging the feedback. Outspread the area of statistics dissemination. The main objective of statistics dissemination is the introduction progressive methods of statistics dissemination, development of communication strategy project on improvement of cooperation with public and mass media, arrangement of briefings, press conferences and presentations.

**Comments:**

The National Statistical Committee of the Kyrgyz Republic under the financial and expert support of UNFPA has developed a new official website of NSC ([www.stat.kg](http://www.stat.kg)), where all aggregated data and other corresponding information including classifications, methodological provisions by statistical domains, statistical reporting forms, etc. are available. A special section on SDGs and Open data has been created on the NSC website. In order to facilitate the access to statistical data, the National Statistical Committee under the support of UNDP, has developed the Mobile Application that provides data in dynamics over 5 years. NSC conducts on a monthly basis press conferences with participation of mass media in order to highlight the results of the social and economic situation in the Kyrgyz Republic.

Also, under the support of UNDP, the press clubs for journalists are held on quarterly basis to interpret and understand better the statistical data.

Once a year, on the eve of the World Day of Statistics, with the support of UNICEF, the National Statistical Committee organises the Open Door Day with the slogan "User-friendly statistics" for a wide range of users to present all the statistics achievements and development of the country by economic sectors (Participants: scientists, ministry representatives and agencies, NGOs, International organizations, students, Mass Media and other interested persons).

A special Marketing Department has been established at the Main Computing Center of the National Statistical Committee of the Kyrgyz Republic to work with a variety of users to provide them the necessary information upon direct request. If necessary, the Marketing Department can conclude contracts for delivering the corresponding information on a regular basis.

Currently, Natstatcom within the framework of the KGSTAT project financed by the World Bank and expert assistance of leading statistical agencies of the world has started to

develop the questionnaire to study users satisfaction as well as the draft of the Communication Strategy.

- Transfer to electronic collection of statistics reporting, which will help substantially reduce the respondent burden, expenses for official statistics, and also to improve the quality of entry data. Herewith, the function of the territorial of state statistics agencies on collection and data editing will be considerably reduced and replaced by functions intending the expanded analysis for local administration.

**Comment:**

Under the support of Statistics Norway, the NSC hired the company which has developed a program (software) for transition from paper based statistical reporting forms to electronic forms of statistical reporting. The NSC is currently introducing step by step all existing forms of statistical reporting into the electronic format. At the same time, in the framework of cooperation with GIZ, the work on improvement of IT infrastructure of the Main Computing Center of NSC is underway, which will also help to improve the IT system and the quality of collection and compilation of primary statistical data.

- Statistical registers. The requirement to improve the efficiency of surveying of companies and economic is the updating of statistical register, identification and records of active entities throughout the territory of the country. Updating of the statistical register is supposed to be implemented based on the results of economic census and administrative data of departmental register.

**Comment:**

The statistical register is updated on the base of various economical censuses or surveys. For example, in 2016, with the financial support of UNESCAP, a survey of individual entrepreneurs producing industrial products was conducted in the southern regions of the Kyrgyz Republic. As of the beginning of the survey, the state statistical bodies registered 9035 individual entrepreneurs. As a result of the survey 9815 economic entities were identified that was higher by 800 individual entrepreneurs.

- To secure the quality of statistics, it is important to create an overall system to control the quality of activities, organizational managements, and staff training. Evaluation of strong and weak points on the regular basis, creation of conditions to control quality, introduction of order of planning and monitoring. All this will help to improve the quality of statistical work and statistical information

**Comments:**

To ensure the quality of statistical data the National Statistical Committee under the support of Statistics Norway experts is implementing the process of describing business processes in order to streamline the process of collection and processing of statistical information, understand the process of production of data itself, document the process of data processing that will definitely be reflected on the quality of information. Trainings are conducted for NSC staff to better understand and control the working process on data collection and processing. It is implemented activities on development of automated single metadata system as one of the elements to improve the technologies on processing and modernization of statistical data, which will also affect the quality of data and make it easier to switch to the designing of an electronic forms of statistical reporting as well as to transfer to new technologies for data collection and processing. Natstatcom, within the framework of the KGSTAT project financed by the World Bank, updated the information technologies that ensure to collect, process and analyze quickly and qualitatively the statistical information.

