GEORGIA: ENERGY POLICY

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This article describes the main vectors in Georgia's state policy in the energy sector during the years of independence after the Rose Revolution and calculates the forecast indices and anticipated results of the development of the power industry until 2015.

Urgency of the Problem and Energy Policy Tasks

The formation and implementation of energy policy in Georgia is of special importance. There are objective reasons for this. The country customarily experiences a shortage of fuel and energy resources (FER). The situation became particularly aggravated after the country gained its independence. It became clear that a concise energy policy was essential not only to guarantee the country's economic security, but also to preserve its statehood. Since the very first days of independence, the country has had to come to terms with the situation that has developed, reconsider its limited material-financial and natural energy resources, and create and implement an optimal model of its energy policy. According to the Georgian Constitution, an integrated energy system is among the facilities that are specifically managed by the highest state bodies.[1] This means that the government has a particular responsibility in this issue.

In compliance with the Georgian Law on Electric Power and Natural Gas, the Ministry of Energy is drawing up the main vectors of state policy in the country's energy sector, and it also puts these vectors into practice after they are approved by parliament.[2]

The concept "energy policy" implies a general course and system of measures in energy management. It includes defining the relevant areas in the processes going on in the country in keeping with the goals and tasks it faces. This concept reveals the country's dependence on the energy complex.

During the years of independence, the Georgian Ministry of Energy has drawn up several projects, conceptions, and main vectors of the country's energy policy, but until 2006 none of them were approved by the parliament.

The Main Vectors of State Policy in Georgia's Energy Sector program was approved by the parliament on 7 June, 2006. It was of special significance both for the country's general socioeconomic development, and for its energy sector in particular.[3] The energy policy vectors were defined keeping in mind the specific problems of the transition period (restoration of territorial integrity, distribution of economic and political functions, creation of a corresponding legislative base of a socially oriented market economy, inclusion of the country in the global economic system, and so on). Development of the vectors is based on a fundamental study of the present state of the energy sector, an

[1] See: *Constitution of Georgia*, Tbilisi, 1995, Art 3.1 (in Georgian).
[2] See: *Georgian Law on Electric Power and Natural Gas*, Tbilisi, 1999, Art 3.1 (in Georgian).
[3] See: *Resolution of the Georgian Parliament on the Main Vectors of State Policy in Georgia's Energy Sector*, Tbilisi, 7 June, 2006 (in Georgian).

analysis of the reasons for the crisis at the first stage of development, the formation of the main principles of state regulation of this sector in its individual branches, etc.

The main factor in raising the efficiency of the country's fuel and energy complex is scientific, engineering-technical, and innovative activity. Scientific-technical and innovative policy within the energy complex relies on the latest achievements of fundamental and applied sciences in the energy sphere. In so doing, the problems of the economy as a whole, and of the energy sphere in particular, should be resolved taking into account the local specifics.

One of the most important tasks of energy policy is searching for ways to form a stable energy system in the country and resolve the problems relating to raising energy efficiency and improving environmental protection.

Since the fuel and energy complex is one of the main sources of environmental pollution, the functioning and development of the power industry has recently been encountering extremely urgent environmental problems. Due to the low rates of waste utilization and the impossibility of their mass processing, one of the most serious and urgent problems in the fuel and energy complex is pollution of the oil-production territories with oil and petroleum products.

An important problem is concentration of the negative impact on the environment of the activity of fuel and energy enterprises on the territories where energy is produced and processed. This is complicated by the unsatisfactory environmental level of the technological processes, the physical and moral wear and tear on the basic equipment and units, and the underdevelopment of mechanisms for ensuring environmental protection (reducing and neutralizing the negative impact on the environment).

The problem of ensuring the environmental safety of the oil and gas production projects being implemented on the Black Sea shelf is also important. Energy policy is aimed, among other things, at gradually reducing the load of the fuel and energy complex on the environment and bringing it into harmony with the corresponding international standards.

Development of the Main Fuel and Energy Branches

The main accent in state energy policy is shifting to the electric power sector—the leading branch in the fuel and energy complex.

In Georgia's electric power sector, the main task of long-term policy is to fully satisfy the country's demands for electric power by means of its own hydropower resources. There are plans to gradually solve this task primarily by declining import and later by substituting energy resources. But first it is necessary to rehabilitate the infrastructure of thermoelectric power stations and equip gas turbine plants with the latest technology.

In this respect, energy policy is hoping to resolve several problems at once, in particular:

—complete re-equipping of the morally outmoded and physically worn out technical base;

—building new power stations, as well as creating an infrastructure for the transportation of electric power and natural gas;

—diversifying the import sources of energy resources (natural gas, oil, electric power);

—forming a commercially profitable economic model for the sector.

The main vector in the development of Georgia's energy sector should be efficient assimilation of the country's rich hydropower resources. In so doing, both small and medium, as well as high-capacity hydropower plants must be built.

The special features of Georgia's geographical location presume incorporating import-export operations and the transit of energy resources into the country's fuel and energy complex. The exist-

ing infrastructure must also be rehabilitated and new power transmission lines, substations, and natural gas pipelines linking the energy systems of neighboring countries built.

Georgia must be gradually transformed from an importer of energy resources into a state that possesses sufficient possibilities for developing its own power industry. The development of the energy and energy transport infrastructure linking Europe and Asia is a strategic interest within the framework of Georgia's energy sector.

The following is envisaged in particular:

— backing up and building high-voltage power transmission lines linking Western and Eastern Georgia, which will ensure the sustainability of the energy system;

— building new high-voltage power transmission lines linking Georgia to the energy systems of neighboring countries;

— based on the technical possibilities, operating concurrently with the energy systems of neighboring countries;

— expanding the trans-Caspian energy corridor;

— building pipelines linking Georgia's gas supply system with those of neighboring countries;

— creating underground and above-ground energy storage facilities.

Due attention is given in the above-mentioned document to development of the fuel industry, which primarily implies increasing the production of local energy resources, including- searching for and prospecting new oil and gas fields, and also preparing their supplies in large amounts.

The strategic tasks for developing Georgia's oil and gas industry until 2015 are the following:

— promoting a stable and significant increase in the annual production of hydrocarbons by discovering new high-output oil and gas fields to satisfy the country's domestic needs mainly with its own resources;

— ensuring an annual production of oil and gas with accelerated and expanded preparation of the proven supplies both in the traditional oil-producing regions, and particularly in new prospective areas;

— making rational use of the proven supplies of oil and gas, especially at old fields at the final stages of development, and achieving high end indices of oil production by introducing new technologies;

— providing the country with petroleum products and gas, creating state reserves of oil and petroleum products, as well as underground storage facilities for the purpose of carrying out safety measures;

— specifying their existing reserves and intensifying production;

— operating coal fields that have economically advantageous mining and geological conditions.

The strategic goals of the coal industry's development in Georgia are as follows:[4]

— supplying the economy and country's population with local coal and its products;

— raising the competitiveness of these types of fuel on an alternative energy resource market;

— ensuring sustainable and safe development of the industry based on contemporary scientific-technical achievements and the use of environmentally pure technologies;

— providing jobs for the local population.

Georgia's natural conditions make it possible to develop the production of alternative types of energy to a significant extent. In particular, there are plans to make greater use of these types of ener-

[4] See: *Georgia's Energy Strategy* (group of authors), Tbilisi, 2004, p. 81.

gy keeping in mind that both traditional and alternative types of energy are being used under equal conditions.

The use of alternative sources of energy should be increased in order to reach the following goals:

— to reduce the use of secondary sources of energy;

— to ensure the environmental safety of the fuel and energy complex;

— to lower decentralized energy consumption;

— to reduce the use of imported fuel.

The following is needed to provide the country with reliable heat supply:

— efficient functioning of heat generation facilities, their sustainable development on the basis of new state-of-the-art technologies;

— drawing up programs to reform the heat supply infrastructure and forming a corresponding state management system;

— optimizing decentralization of heat supply of cities and enterprises;

— developing and implementing measures of state regulation of heat supply in order to raise its commercial efficiency; reducing the discharge of waste into the environment; more rational use of urban areas;

— forming a regulatory base for heat supply, including adopting a law on heat energy and energy saving.

Economic Reform Policy and the Efficient Use of Energy

Based on the need to form new market relations in Georgia's energy sector, efforts are being exerted at present to gradually liberalize and deregulate the electric power market. This is ensuring the distribution of rights, obligations, and responsibilities among the functioning entities. It is being achieved on the electric power market by transferring to a system where wholesale sellers and buyers enter into direct agreements.

Continuing the economic reforms is one of the priorities of state policy in the energy sector. This primarily concerns privatization of the industry. This is being carried out in Georgia by electric power and natural gas distribution companies. The main task of state policy in this area is rendering as much assistance as possible to the activity of local and foreign investors and keeping bureaucratic mechanisms and procedures to a minimum. From this viewpoint, licensing must be optimized and the permit-issuing process simplified.

Legislative and institutional acts must be drawn up and improved in order to promote the efficient use of energy and the necessary measures implemented to optimize the use of renewable types of energy, heat supply facilities, and co-generating systems.

The refurbishment and rehabilitation of energy facilities has a significant role to play in raising energy efficiency and energy safety.

Raising the level of energy efficiency will promote development of both the energy complex and the country's economy as a whole. Orientation of the economy toward energy-intensive technology will not only make it less competitive, but will also create serious and essentially unsolvable problems in providing the country with energy resources. Proceeding from this, a priority task in energy policy is promoting measures to transfer all the branches of the country's fuel and energy sector and economy as a whole to energy-saving technology.

State policy is aimed at clear and unconditional adherence to the mentioned strategic references for raising energy efficiency. This can only be achieved by carrying out a wide range of measures designed to stimulate and regulate the consumption of energy resources, which will ensure a goal-oriented industrial policy and structural transformation of the country's economy in favor of low energy-intensive branches, as well as improvement of the technological potential of energy saving.

According to experts, the untapped technological potential of energy efficiency is equal to approximately one third of the country's total energy supply. Based on this, not one other measure is capable of competing with an increase in energy efficiency and it can confidently be considered a new energy resource.

An intrinsic element of energy policy is optimizing metering. To this end, there are plans to finish installing communal and individual meters. This is primarily being carried out in large cities and regional centers, but it should eventually encompass the entire country.

In order to successfully implement the economic reforms in the industry, an appropriate institutional environment is to be created. The following is necessary for this:

— reducing the number of licenses and permits to a minimum, and simplifying the license-issuing procedure as much as possible;

— deregulating power stations that went into operation after 1 January, 2007;

— ensuring transparency in carrying out privatization in order to achieve regular supply of end consumers with electric power and natural gas;

— defining the rights and responsibilities of the sides (state and investor) participating in the privatization process and their distribution on the basis of a corresponding agreement.

In order to improve the sector's economic stability, the energy policy envisages putting the rules for the electric power (capacity) and natural gas market into effect. The relevant legal documents have already come into force.

Enhancing competition and carrying out gradual deregulation in sectors of power engineering and gas industry will be facilitated by such measures as the transfer to direct contractual relations between the producers and wholesale buyers of electric power, as well as liberating the energy sector from its old debts. According to the energy policy, at this stage, a person or group of persons does not have the right to possess more than 70% of the entire production and distribution volume of electric power (not counting the electric power of direct consumers).

In Georgia, state regulation of the power industry has been in effect for more than 10 years. The creation of a regulating body is an important part of the extensive and complex process of economic reform of the energy sphere. Significant results were achieved in this during the period mentioned. This primarily concerns tariff regulation of electric power and natural gas, as well as licensing. It goes without saying that conducting a correct tariff policy will promote the successful implementation of the economic reforms in the country.

According to the main vectors of energy policy, the tariffs should protect consumers from monopolistic prices and also give the energy system the possibility of ensuring long-term and sustainable financial-technical development. The tariff methodology envisages the following for different types of consumers:

(a) seasonal tariffs;

(b) peak (daily) load tariffs;

(c) block-rate tariffs (based on the consumption volume);

(d) long-term pre-fixed tariffs (including maximum);

(e) maximum tariffs.

Seasonal tariffs and peak (daily) load tariffs should be based on the principle of neutrality, their use should not be mandatory either for the sellers or the buyers of electric power. They should be based on agreements between the sellers and buyers.

The use of block-rate tariffs, long-term pre-fixed and maximum tariffs (based on the consumption volume and principle of neutrality) will be mandatory for both sellers and consumers. An exception might be those consumers who use communal meters. The use of block-rate tariffs is not envisaged for them.

Energy policy envisages the gradual implementation of tariff deregulation for electric energy production. The tariffs should take into account the specifics of different categories of consumers and cover the reasonable expenses associated with services offered by licensees.

Increased attention in energy policy must be focused on foreign energy relations. This will make it possible to:

— economize on expenses during energy production;

— introduce different types of macro-economic advantages;

— successfully carry out reforms in the energy sector;

— participate on the domestic market of the European Union.[5]

This in turn envisages:

— exchange of electric power with the energy systems of neighboring countries;

— long-term cooperation with the technical operators of the electric power systems of neighboring countries in order to ensure export in the event of surplus electric power and its import in the event of shortages;

— initiation and harmonization of a corresponding regulatory framework in order to form a regional energy power market;

— efficient use of the country's geopolitical position and assistance to the import-export and transit of energy resources;

— development of the energy and energy transportation infrastructure linking Europe and Asia both in the easterly and westerly, as well as in the northern and southern directions;

— ensuring diversification of natural gas and electric power sources.

Anticipated Results

The Main Vectors of State Policy in Georgia's Energy Sector program presents a forecast of this sector's development. For the period until 2015, according to the estimates of the Ministry Energy, Georgia's electric power system will be non-deficit after 2006. Electric power production in 2015, compared with 2006, will increase 2.2-fold and net consumption 1.64-fold. Surplus energy will reach approximately 3.0 billion kWh. The share of hydropower stations (GES) in the total electric power production will grow from 71.6% to 79.1%.

The introduction of new capacities is envisaged: the KhudoniGES, NamokhvaniGES, and ParavaniGES, as well as the ZhonetiGES, and the TvishiGES. Moreover, new small hydropower plants generating up to 500 million kWh of electric power a year will go into operation. There are plans to launch wind-power stations (see Table).

[5] See: D. Chomakhidze, *Georgia's Energy Security*, Tbilisi, 2003, pp. 163-165 (in Georgian).

Table

Forecast of Electric Power Production in 2015
(*million cu m*)

Name of Electric Power Station	2006[6]	2015[7]	2015 in % of 2006
InguriGES	1,652.1	3,610	218.5
VardniliGES	363.2	606	166.9
VartsikheGES	721.1	740	102.6
LajanuriGES	274.7	380	138.3
GumatiGES	220.2	250	113.5
ZhinvaliGES	390.4	500	128.1
KhramiGES-1	334.7	215	64.2
KhramiGES-2	118.2	290	245.3
RioniGES	290.5	290	99.8
KhudoniGES	—	1,328	—
NamokhvaniGES	—	910	—
ParavaniGES	—	140	—
ZhonetiGES	—	280	—
TvishiGES	—	400	—
Other hydropower stations, including small	951.0	2,587	272.0
Hydropower stations, total	5,316.1	12,826	241.3
TbilGRES	663.9	—	—
Mtkvari-energetika	1,149.5	1,621	141.0
Energy-investi	290.4	347	119.5
Thermoelectric power stations, total	2,103.8	1,968	93.5
Wind-power stations	—	1,425	—
Production of electric energy, total	7,419.9	16,219	218.6

[6] See: *Annual Report of the Georgian National Commission for Energy Regulation (NCER)*, Tbilisi, 2006, p. 58 (in Georgian).

[7] See: *Resolution of the Georgian Parliament on the Main Vectors of State Policy in Georgia's Energy Sector (Appendices)*.

As for the forecast on natural gas consumption, it is envisaged in the following volumes (million cu m): 3,433 in 2010, 3,533 in 2015, compared with 1,881 million cu m in 2006.

More than a year has passed since the parliament adopted the Main Vectors of State Policy in Georgia's Energy Sector program. As already noted, some of the measures envisaged have already been implemented during this period. The Georgian Ministry of Energy, in cooperation with corresponding organizations, is working on adding the final touches to the mentioned documents taking into account the new circumstances. The question is being considered of the expediency of building a nuclear power station in Georgia.

Implementation of the state's energy policy should be based on a continuously updated regulatory framework by adopting laws that have a direct effect on the various branches of the energy complex, as well as by ensuring a favorable legal space for it to function.

Implementation of the energy policy will help to form a competitive fuel and energy complex in Georgia, as well as a dynamically developing energy market oriented mainly toward the use of its own fuel and energy resources—a market, the parameters of which will meet the growing needs of the economy for energy resources and, due to the country's participation in international regional energy systems, will make it even more possible to ensure sustainable and safe energy supply.