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Modern Tendencies of Energy Development

The modern world is facing new challenges and problems. Among them one of the most important challenges is global warming which can lead mankind to irreparable results. Negative consequences already exist and every year they are getting more and more large scales. Actually, every country acknowledged that this problem needs to be solved immediately. In this respect, the documents of international significance are adopted which have the force of law; developed and developing countries as well as relevant state or non-state entities make great effort for their accomplishment.

Despite the fact that according to its financial and other resources Georgia does not belong to the ranks of the world's leading states, I consider that it should still take an active part in solution of this problem. Georgia is a small country and it seems that its role should be smaller, but if we foresee the significant potential of renewable and first of all hydro-energy recourses, it may even play a leader's role in the regional context. I can also bring some figures about our country's renewable energy resources. In Georgia researches in this direction have been carried out since the beginning of the last century. According to the density of technical potential of hydro-energetic resources, Georgia occupies one of the leading positions in the world. In Georgia the theoretical energy of annual runoff is 220 billion kilowatt hour, capacity – 26.1 thousand megawatt. Potential energy of the basic part of rivers is 137 billion kilowatt hour (13.6 million tne/m), capacity – 15.6 thousand megawatt. Runoff of rivers' total potential together with small rivers' potential is 160 billion kilowatt hour, capacity – 18.3 thousand megawatt. Main rivers' average annual technical hydropower potential is within 80-85 billion kilowatt hour (6.9-74 million tne/m). Estimated potential of economically effective part approximately equals to 32-50 billion kilowatt hour. In this potential a large part is spent namely on small energy which belongs to the renewable energetic category.

Nowadays, there are 13 hydro-electric power stations – licensees. The electricity generated by them is changing according to the order of energy market and by the removal of the cost of the used energy. The number of small electric power stations is about 27. The portion of small hydro-electric power stations in the total capacity of all hydro-electric power stations is 3.1%, in generation of electricity – 5.35%, in production of the annual total balance sheet (including thermal power stations) - 3.8%, in capacity - 1.9%. In Georgia, the development of electricity manufacturing is supported by the following conditions: economic development in general, development of those fields of economy in which power consumption takes an important space, demographic growth (the more consumers are the more electricity is needed), tendency of car manufacturing (cars are important consumers of energy and if they pass on hybrid fuel, the demand on electricity will increase significantly). Besides hydro-electric power stations, equipments of renewable energy sources, such as wind, solar, geothermal waters equipments are also involved in generating

electricity. In the countries, which are rich in gas and oil products, energy generation is mainly held in thermal power stations; such countries are: Russia, Nigeria, Venezuela, the Arab countries, etc. In several countries, mainly in developed countries an important part of energy is generated in nuclear power stations, for example: France, whose energy independence greatly depends on the electricity generated in nuclear power stations. Follows from that, we can say that thermal power stations and nuclear power stations are the related fields of hydro-electric power stations. As for the energy system in Georgia, in our country electricity is produced only in thermal- and hydro-electric power stations; a nuclear power station does not operate.

As a result of stable economic growth, gradually increases the demand on electricity. I think that in 2015-2016 mass production of electric cars will start what will significantly increase the demand on electricity. In power industry, the so-called unloaded "Surplus" installed power i.e. potential possibility of power stations should exceed the nominal requirement at least 30%. Currently, in Georgia the project on building 40 hydro-electric power stations is being accomplished, whose total installed power is 1872 megawatt, while the average annual output is more than 7350 million kilowatt hours. In the above mentioned project the expected implemented investment is about 3billion US dollars. The main part of hydro-electric power stations will have been completed by 2018. In the politics, energy represents such factor which has an influence on the results of state's foreign policy; also, it can be used as a potential tool for the implementation of a state policy. Strengthening energy security represents national security agenda's main motive for energy importing countries, while for energy exporting countries - the main objective is not stable markets maintenance. A stable ensuring of oil and energy materials, including the military situation, is an important component of national security policy and military planning. When in the conditions of international energy market the situation becomes strained, energy has a tendency to become a dominating factor in the country's foreign policy and to be given the highest priority in political agenda.

References

1. The ministry of energy. www.minenergy.gov.ge
2. Tavadze G., Chomakhidze D., QavTaradze I., Menabde D. 2006. *Regulation of Energy: Theory and Practice.* Tbilisi.
3. Professional consulting service – research and projects of technical-economic expediency: Strategic assessment and final report of energy sector development's impact on the environment. Tbilisi, December of 2007.
4. Arveladze R., Kereselidze N. 2000. Energetic of XX Century – Its Following Problems and Perspectives. *Energy.* №4. 3-13.

5. www.minenergy.gov.ge
6. http://georgia.usaid.gov/ka/node/31
7. www.energo-pro.ge
8. www.telasi.ge
9. www.esco.ge