

ROLE OF RENEWABLE ENERGY IN SUSTAINABLE DEVELOPMENT OF GEORGIA

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ABSTRACT

As the name implies, renewable energy is energy that is derived from natural resources that are continuously replenished over time, such as sunlight, wind, water, and geothermal energy, which are all examples of natural resources that produce renewable energy. A sustainable energy future relies on the availability and environmental friendliness of these energy sources, which make them crucial components of a sustainable energy future. On the other hand, sustainable development is the concept of knowing how to meet the needs of the present without compromising the ability of future generations to meet their own needs in the future. The concept of sustainable development encompasses economic, social, and environmental aspects with the aim of sustaining prosperity without harming the environment as much as possible.

Key Words: Development of the national, Economy, Green Economy, Renewable Energy, Economy.

CONTENT

In order to find effective solutions to global environmental issues, long-term actions will need to be taken. As a result of climate change, the power industry has been forced to devise innovative decarbonization strategies to reduce its carbon footprint. Sustainable development incorporates cultural, physical, and economic factors to provide perfect balance and a high standard of living.

As the world struggles to reduce its reliance on limited and polluting fossil fuels and mitigate the negative effects of climate change, renewable energy technologies have gained importance. In order to promote sustainable development, which attempts to meet the demands of the current era without compromising the future, it has been realised that the utilisation of renewable energy sources is a critical component. This article covers the role of renewable energy in sustainable development and how it helps safeguard the environment.

Energy consumption generally increases in line with economic growth, and if production/output does not increase, there is a shortage and the need for im-

ports. Georgia can almost entirely satisfy its domestic demand only with electricity, and its exports occasionally exceed imports. Usually, when production increases, exports increase. According to 2023, the electricity export from Georgia shows an increase of 53%. According to Geostat, in January-May 2023 Georgia exported 415,892.00 kWh of electricity. During the same period last year this figure was 272,100.3 kWh. In the 5 months of 2023, electricity exports from Georgia amounted to 29,897.78 thousand dollars, of which 89% was accounted for by Turkey. In second place is Armenia, where Georgia sold electricity for the amount of 3063,28 thousand dollars.

On 20 December 2019, the Government of Georgia determined an indicator according to which the overall national target for the share of energy from renewable sources, Overall, the final energy consumption is 35 percent.

To achieve this, the Government of Georgia has implemented various reforms, including the system of net measurement related to solar power plants adopted on 20 December 2019, according to which the net measure can use any natural and legal person, a cooperative of owners of apartments, The residents of the district, village and/or village do not constitute business activities. The power generation of a micropower plant and the consumption of the produced electricity can be carried out in different places, for this it is necessary, to connect the micropower plant and the user or group of users to a single distribution network of the licensee.

It should be noted that in the case of Georgia we are faced with one important problem in the development of renewable energy sources - low level of awareness of the population about renewable sources energy. A large part of the population of Georgia simply does not have information about renewable energy sources, their incentive programs, competitions, grants and investment incentives, which further revealed the public awareness survey.

According to a study conducted by about 40 people, there is a problem in the perception of the concept «renewable energy source» in general. Almost 40% of re-

spendents do not understand which sources are included in the above list. It also shows that despite the public interest, a significant portion of them, namely, according to the survey, 93%, do not have information about organizations specializing in the device, Maintenance and exploitation of renewable energy sources. energy.

In the case of Georgia, interest in renewable energy is growing significantly every year, which confirms the speed of emergence on the market of organizations providing technical services, and their sales trend. Today, about ten large technology companies occupy the majority of the market, and their number is growing almost every month.

Today, in the age of technology, for every type of business or household, electricity is one of the most important resources of existence. As important as it is, so is the share of electricity in monthly expenses. With the emergence of a number of companies in recent years providing the technical services required for solar power plants, competition has increased in the market, this means that prices have become more stable and affordable compared to previous years. Today, the cost of installing a solar power plant per kilowatt-hour on the Georgian market ranges from US\$800 to US\$1,000. As for the current electricity tariff in Georgia, it averages 16 TETRI per kilowatt for individuals and 33 TETRI for legal entities.

In the context of market relations, the link between the pace of macroeconomic development and energy efficiency is very relevant. The energy capacity of GDP per unit of cost indicates the level of efficiency of the economic complex of the country. The situation is relatively better in terms of electrical output, with 1 GEL of GDP consumed in 2003, 1.29 kwh of electricity; The number of women in the labor force is 39 per cent lower than in 1995. And almost the same thing happens in industry.

In the conditions of market economic relations, reducing the energy intensity of GDP is very urgent. A team of scientists from the Research Institute for Energy and Power Facilities of Georgia has developed forecast data on GDP and energy intensity. It is based on the forecasts of experts from the Ministry of Economy, the World Bank and other international financial organizations.

The forecast of the needs of the country's economic complex in heat energy resources is based mainly on indicators of macroeconomic forecast of economic development.

It should also be taken into account that in the forecast period, priority is given to the development of small and medium-sized enterprises and businesses that are less energy-intensive. Therefore, the choice should be based on the following consumption struc-

ture of heat-energy resources: in the coming years (2005-2006) priority should be given to the use of gas and petroleum products. In the electric power industry - rehabilitation and technical upgrading of existing capacities, improvement of energy efficiency, development of energy-saving technologies.

In the period thereafter (until 2010) the main priority should be given to attracting investments and building new energy facilities, search for local resources for heating.

It is a reality that the Georgian economy and its energy sector will not be able to develop at a higher rate, The national economy is faced with the need for complete technical re-equipment. The country's capacity to pay is also low, and will not improve significantly until 2010.

It should be noted that the increase in the amount of natural gas and petroleum products will remain a priority in the heat-energy balance.

In addition, based on the real energy potential of Georgia, it is necessary to accelerate the use of water resources, whose economically justified estimate is 45 billion kWh, while the current resource is no more than 15%.

Experience shows that the efficient use of heat energy resources is determined by the balanced work of its main industries (electricity, heat, gas, oil) when each uses energy-bearing resources for its purpose. rationally. Replacing heat-generating sources with electricity requires 3-4 times more fuel than traditional water heating systems. On average, 120,000 tons of electricity are lost per year due to the replacement of organic heating with electricity. The technical and commercial losses in electricity transportation are 160 thousand. It has been awarded the rating electricity needs 30 percent more heat, than the world average. Such large energy losses are particularly unacceptable for a country that is a full-fledged importer of energy-bearing resources.

To achieve high rates of reduction of energy capacity, envisaged by the prospective balance of heat energy resources, The implementation of energy policies should be accelerated in accordance with market-based economic principles such as:

- Reduction of technical and commercial energy losses;
- Promotion of energy-saving technologies;
- tax system regulation;
- Tariff improvement, etc.

Finally, the role of renewable energy sources in sustainable development of local economies is very important today. As mentioned above, this helps the country reduce the number of environmentally harmful facilities such as thermal power plants, To increase energy independence and stimulate economic activity in

the country. Besides that the development of renewable energy sources in Georgia contributes to the protection of the environment and health of nature, improvement of economic situation of population and stimulation of production, it also brings the country closer together.

The United Nations Sustainable Development Goals and to raise the profile of developing countries. In this respect, the situation in Georgia is rapidly changing in the direction of positive, to which if we add that country has a wide development perspective in terms of renewable energy, it should be said that against the backdrop of this trend towards sustainable development, Georgia is becoming an energy-independent country with a sustainable economy and a healthy environment.

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