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RENEWABLE ENERGY BETWEEN AGRICULTURE AND INDUSTRY

Diana GROSU

Moldova State University, 60 A. Mateevici str., MD-2009, Chişinău, Republic of Moldova, Phone: +373 57 74 27, +373 697 94 657, E-mail: dia.grosu@yahoo.com

Corresponding author: dia.grosu@yahoo.com

Abstract

The paper aims to present the evolution of renewable energy in the entire world, including Moldova and Romania as states that tend to reach their micro- and macro-economic objectives. One of the most important goal remains the development of renewable energy from agricultural waste and so the energy coming from natural sources such as solar, wind or water without air pollution. As a conclusion, the solution to obtain this renewable energy is to attract financial resources from EU or USA investors.

Key words: *evolution, EU states, investors, Moldova, renewable energy*

INTRODUCTION

The renewable energy sources: solar energy, wind energy, hydraulic, geothermal, biofuels, etc. represent inexhaustible sources that are widespread all over the world. Today it is shaped the tendency to use widely all these sources by producing and assembling various technologies such as solar panels that absorb heat from the sun and transforms it into thermal and electrical power, or wind turbines, located in areas predisposed to continuous movement of the air masses, for wind energy capture and as for many other technologies. The efficient use of renewable sources would limit the excessive use of energetic resources of minerals (coal, oil, natural gas) and would significantly reduce gas emissions to prevent greenhouse effect.

MATERIALS AND METHODS

To characterize the evolution of renewable resources distribution, as a share of gross energy consumption in the European Union, we examined statistical reports of the EU's statistical office, Eurostat.
We also investigated the report for 2011 prepared by Observ'ER – a structure composed of engineers and experts in renewable resources sphere- part of the "Eur'Observ'ER 2020" project, supported by the European Union.

In the context of social development and national economy growth, we would like to emphasize the objectives suggested by Energy Strategy of the Republic of Moldova until 2030 as well as the projects designed to ensure financial technology implementation in the assimilation and transformation process of renewable resources.

Sursa: http://www.curierulnational.ro
Economie/2008-03-21/
Romania+mizeaza+pe+energia+din+resurse+regenerabile

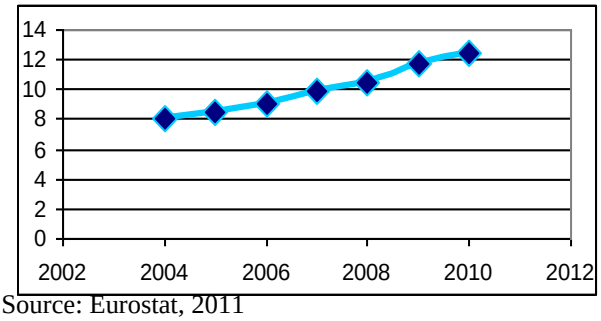
RESULTS AND DISCUSSIONS

According to a statement given by European analysts, in European industry, currently, are employed some 1.5 million people, and for 2020 the figure is expected to rise to 4.5 million people. [2] Most sought jobs are related with the producing of solid biomass with more than 273 000 jobs, followed by photovoltaics and wind energy with 268 110 and respectively 253 145 jobs estimated for

2010.[4] This event speaks of a continuous integration of EU Member States in the process of renewable sources application, circumstance which would provide both work places for people and benefits stated above. According to an EU General Report activity, adopted by the European Commission on 26 January 2012, the EU strategy is to reduce greenhouse gas emissions by at least 20% compared to 1990 level and increase the distribution of renewable energy in total consumption energy to 20%. [3] In this context, at a national level, the Government of Republic of Moldova approved at February 5, 2013 Energy Strategy of the Republic of Moldova until 2030, which provides the achievement of the objectives, measures and activities focused on energy improvement and renewable energy use increasing as well as attracting investments in this area. Being a member of the Energy Community Treaty, Moldova aims at compatibility with the market rules of the EU and the Energy Community, but as well to promote without delay an efficient and correct transposition of EU legislation. [5] To achieve the proposed objectives, Moldova, and Romania, as an EU member state, tend to get grants, long-term credits and international investment. The project "Energy and biomass" with a total budget of 14 million EUR, granted by the EU and 0.56 million EUR, granted by the United Nations Development Programme, aims to provide with thermal energy locally produced from biomass more than 130 kindergardens, schools, medical centers, other public institutions and over 500 rural households. Another project, strengthening capacities for sustainable management of energy, with a budget of 1.6 million euros granted by the Swedish Agency for International Development, provides a normative framework drafting for energetical efficiency and renewable energy sources. Funding sources come boundless and from the budget support program in energy sector reforms with a budget of 40 million euros. [5] In this context we note the attitude of the state towards the development of the energy sector for social prosperity. We remark European Bank for Reconstruction and Development which gives to Moldova 35 million euros to improve the energy efficiency of the residential sector through a project oriented towards housing associations and small and middle-sized businesses. Currently, ProCredit Bank operates after a policy of energy efficiency and the MoREEFF loans are offered to clients who wish to invest in developing renewable resources without adverse environmental impacts, calling them "Green Loans". So MoREEFF project consists of two components: a credit line of 35 million euros and a fund grants amounting to 11 million EUR, provided by the European Union and the Government of Sweden.

In a report published by the European Union's statistical office, Eurostat, was made a comparative analysis between EU Member States. Thus, on average, in the EU-27 Member States, the share of renewable resources in total gross energy consumption increased from 8.1% to 12.5% in the period 2004-2010. [6] (Figure 1).

Fig.1. Evolution of the share of renewable energy in total consumption



Source: Eurostat, 2011

As we mentioned, the purpose of the EU is to achieve 20% energy from renewable sources in total consumption of energy, but as well as reducing the dioxide emitted into the atmosphere. Each EU Member State has established this purpose at national level, being an objective which requires foreign investment and cooperation between states. According to data presented in the report of the EU's statistical office, Eurostat, in 2010, the share of renewable resources in their total energy consumption for Romania represented 23.4% compared to the established aim for

2020 of 24%. [6] Thus, Romania, has deviated from the intended purpose with less than 1%, which speaks of a good development and a well realized legislative and normative framework. Among EU member states that in 2010 recorded a high percentage of renewable energy in final consumption is highlighted Sweden (47.9%), Latvia (32.6%), Finland (32.2%), Austria (30 , 1%), Portugal (24.6%), Estonia (24.3%), and among those with low weight included Malta (0.4%), Luxembourg (2.8%), UK (3.2%). [7] As for Moldova, the record for 2009 of renewable energy share in gross final consumption was of 11.2%. [8]

According to data presented by Ernst & Young, Bloomberg New Energy Finance (BNEF) reported that the investment point in renewable energy at a global level for 2012 was around 149 billion dollars (113 billion euros), which represented a decrease compared with 2011 when its level was 180 billion dollars (137 billion euros). [9] Regardless of the economic and financial crisis, registered investments, even with a slight decrease compared to 2011, contributed to the development of this field globally, representing a total cash respectable for this sector of the economy.

In fact, many imposing market companies take measures to reduce excessive energy consumption, focusing on streamlining it. Such restructures significantly reduce costs in the company, representing a benefit, as in the case of any increase in sales. Moldovan enterprises should exploit the enormous potential offered by the agricultural sector whereas their economic development is largely based on the export of products and services from industrial-agricultural area. If small and medium-sized enterprises should invest in installing technologies to produce bioenergy and transform agricultural waste into biomass, it would cover the consumptions at least at company level.

And yet, Moldova, through the agricultural potential that it holds, but also by geographical location that allows the setting of the technologies is unable to capitalize on by lack of funding. Since Moldova is dependent on imported energy sources with the share of 94%, there are performed meetings with experts from the European Union. Recently a group of experts from Poland, amply documented about Moldova, proposed solutions for biogas production, for heat and electric energy from renewable sources such as waste arising from the production of wine, sugar, oil and livestock waste.

Moldova has engaged in a "green revolution" by setting and achieving the objectives for energy efficiency, promoting boundless participants in these projects. Savings that could be achieved, in the state budget, following the implementation of Government objectives by 2020 would be about 1.2 to 2.4 billion lei, saving 20-40% of total energy consumption.

With the changes made within the legal-normative frameworks and relative economic stabilization, exists the certainty for attracting foreign investors. Currently, as specifies the Ministry of Economy, Industry financing package for energy efficiency and renewable energy form over 100 million euros.

CONCLUSIONS

We note that renewable resources have become priorities for sustainable development of both EU Member States and the Republic of Moldova. By joining the Energy Community Treaty, the Republic of Moldova has set targets that follow to be implemented. However the national authorities optimism is not shared by the participants in "green" projects, one of the causes being the lack of grants from the state. Compared to previous years we can notice that the level of investment in renewable resources had increased significantly. Thus we believe that in the near future, Moldova, through intensive cooperation with EU Member States will achieve its proposed strategies.

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