

THE IMPLEMENTATION OF EUROPEAN ENERGY POLICIES IN ROMANIA IN THE CONTEXT OF THE GLOBAL FINANCIAL CRISIS

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Abstract: *This paper is an approach to the status of European energy policies as well as to their implementation in Romania, before and after the outset of the global crisis. The main focus is set on the renewable energies policies. We have an overview of the energy policies of the EU and of the current Romanian legislation on this topic. We observe the degree to which European policies have been implemented in Romania up to now, our goal being to evaluate the current status of Romania as to energy topics and to advance the proper suggestions for its development, based on the country's geographical, social and economic characteristics and facts. The EU main stream in this area will of course serve as primary guide lines.*

Key words: *policy, renewable energy, energy policies, legislation.*

1. Introduction

85% of the energy we use comes from fossil fuels such as coal, oil and natural gas. The world virtually depends on the supply of fossil-fuel and they are running out. The complete restoration of fossil fuels that we used in just a thousand years would take millions of years. Fossil fuels are considered to be non-renewable sources of energy.

Renewable energy comes in as a resolution for this global issue. Renewable energy is any natural source that can replenish itself naturally over a short amount of time. Renewable energy comes from many sources such as solar power, wind, running water, waves and geothermal energy. Solar energy can be

used to provide electricity and heat in homes or buildings. The kinetic power of the wind can be also converted into electricity. Hydropower is another common method for obtaining energy. Another renewable source used today is the geothermal energy - heat and steam captured from inside the Earth.

Renewable energy sources are better options because they are limitless, that means we won't run out of them as we will eventually run out of the fossil fuels we currently depend upon. Another benefit of using renewable energy is that many of them do not pollute our air and water the way burning fossil fuels do. The world must transform its current energy system on a global scale. It is expected that 60% of all our energy will come from

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renewable energy by the year 2070. The globalization process can be an important positive factor in achieving this goal. The World Solar Summit, World Solar Decade and the World Bank have allocated over two billion dollars for projects dealing with renewable energy and the environment. Renewable energy R&D provides the pathway for new solutions with a steady flow of technological advances. New concepts and systems are emerging and that demonstrates the importance of renewable energy as the new source of power for the future. Before the global financial crisis most of the renewable energy industries were expected to increase investment in developing new technologies to become more cost competitive, expand their markets and enhance their efficiency further. The following years will show how hard the renewable energy industries were hit by the global financial and economic crises.

2. EU Energy Policy

“Safeguard the earth's capacity to support life in all its diversity, respect the limits of the planet's natural resources and ensure a high level of protection and improvement of the quality of the environment. Prevent and reduce environmental pollution and promote sustainable consumption and production to break the link between economic growth and environmental degradation.” [7]

In January 2007 the European Commission adopted the communication [8] proposing an energy policy for Europe. The goal is to combat climate change and increase the EU's energy security and competitiveness. EU is going a new energy path towards a more secure, sustainable and low-carbon economy. The two principal goals are to give energy users greater choice, and to encourage investment in energy infrastructure. In

March 2007 the Council endorsed the following targets:

- reducing greenhouse gas emissions by at least 20 % (compared with 1990 levels) by 2020;
- improving energy efficiency by 20 % by 2020;
- raising the share of renewable energy to 20 % by 2020;
- increasing the level of biofuels in transport fuel to 10 % by 2020.

The first key element in energy policy is reducing the dependence on fuel from nonmember countries, reducing emissions from carbon sources, and decoupling energy costs from oil prices by using renewable energy sources. The second key element is limiting the demand, by promoting energy efficiency both within the energy sector itself and at end-use.

2.1. Impact of the Global Financial Crisis on Renewable Energy Finance

According to the results of a survey made by UNEP, SEFI, New Energy Finance and Frankfurt School of Finance & Management in April 2009, the economic downturn should not last more than two years. In the meantime, capital will remain in short supply and access to finance will be difficult and costly. Many companies in the field of renewable energy are already undergoing a downward adjustment of their business planning. Due to reduced liquidity, financing for renewable energy projects will decrease over the next one or two years. [2]

Investment flow to developing countries, in particular, will decline. Lower commodity prices will only have a temporary impact on costs and investment. It is expected that the market volume of private equity, venture capital, project finance and capital markets will decrease further in the foreseeable future. Government financing of renewable

energy will however increase. Energy policies such as long-term carbon prices, stable subsidies, high targets and tax brakes are considered important requirements from institutional investors. Governments can help the companies in the field of renewable energy through the crisis with financial incentives and loans. The Impact of the global financial crisis on renewable energy finance-survey showed an optimistic state of the companies about achieving the European renewable energy targets, about the future of renewable energy and the mood of investors and the industry, despite the many hurdles still to jump until full economic recovery, is turning positive.

3. Romanian Policies Regarding Renewable Energy Sources

Romania's obligations as a Member State of the EU regarding the reduction of greenhouse gas emissions during the post-2012 period derive from the policy objectives that were agreed at the Spring session of the European Council on 9 March 2007: to reduce until 2020 the emissions of greenhouse gases by 20% compared to the levels of 1990, to increase by 20%, within that timeframe, the share of renewable energy in the overall energy consumption, to enhance energy efficiency by 20%, and to achieve a minimum 10% share of bio-fuel in the total fuel consumption in transport. [9] The promotion of renewable sources is the main objective of the legislative package on climate change and renewable energy resources that the European Commission submitted on 23 January 2008. The three national objectives - for 2013, 2020, 2030 - are the following:

Horizon 2013: ☞ To meet the short and medium-term energy demand and to create the prerequisites for national energy security in the long run, responding to the

requirements of a modern market economy for safety and competitiveness;

- ☞ to fulfill the obligations under the Kyoto Protocol regarding the reduction by 8% of greenhouse gas emissions;
- ☞ to promote and implement measures for adjusting to the effects of climate change and
- ☞ to observe the principles of sustainable development.

Horizon 2020: ☞ To ensure the efficient and safe operation of the national energy system;

- ☞ to attain the current average levels of energy intensity and energy efficiency of the EU;
- ☞ to fulfill Romania's obligations in accordance with the EU legislative package on climate change and renewable energy and with international targets following the adoption of a new global agreement on that subject;
- ☞ to promote and implement measures for adaptation to the effects of climate change and to observe the principles of sustainable development.

Horizon 2030:

- ☞ To align Romania's performance with the EU average in terms of energy and climate change indicators;
- ☞ to meet Romania's commitments on reducing greenhouse gas emissions in accordance with existing international and EU agreements;
- ☞ to implement further measures for the adjustment to the effects of climate change.

Romania has the obligation to prepare and to present to the European Commission, by 31 March 2010, a National Action Plan including concrete targets for the share of renewable energy sources used for transport, power generation, heating and cooling, along with the corresponding measures to meet those targets.

The implementation of the Green Certificates scheme is expected to increase the share of power generated from renewable sources to 9-10% of the final consumption of electricity, related to the actual amount of electric energy sold to consumers, considering that the EU Emission Trading Scheme has been functional since 2005.

In conformity with the legislative package, Romania will have to increase the share of renewable resources (solar, wind, hydro, geothermal, biogas etc.) in the final energy consumption from 17.8% in 2005 to 24% in 2020 (compared to the EU average of 8.5% in 2005, with the objective to reach 20% in 2020). Romania proposes to bring the share of electric power produced from renewable sources to 38% of the total in 2020.

The use of bio-fuels and other renewable fuels in transport will amount to at least 10%, reckoned on the basis of the energy content of all types of petrol and diesel fuels now in use, while abiding by sustainability criteria for those products, with an intermediary target of 5.75% in 2010.

The rehabilitation of approximately 35% of the multi-storey residential, administrative and commercial buildings will continue till 2020 with a view to improving their energy efficiency.

New power generating units will be commissioned and connected to the national grid in order to cover the projected demand, including two new reactors at the nuclear power plant in Cernavoda and the completion of several hydropower stations.

For 2030 improved energy efficiency will bring about a reduction of the primary energy consumption by 30% and of the final energy consumption by 26% compared to the average consumption levels recorded between 2001 and 2005.

The use of efficient light bulbs will be generalized.

The use of clean technologies for power and heat production will be expanded in generating plants using energy resources and technologies producing very low levels of carbon emissions and provided with facilities for the capture and underground storage of carbon dioxide.

The construction of hydropower stations and water engineering works will continue in order to turn to good account the existing, but yet unexploited, 15-20% potential for power generation.

Two additional, large-capacity nuclear power units will be built to meet the expected demand for economic development and public consumption.

The thermal rehabilitation of some 40% of multi-storey buildings will be continued and projects will be developed for passive buildings and residential developments with very low energy consumption (15-50 kWh per square meter per year).

4. Steps Taken by Romania in Implementing the Policies Regarding Renewable Energies

So far, Romania has already taken a few steps to achieve its goals regarding renewable energies.

➤ In order to promote renewable energy, Romania introduced since 2004 a quota system with tradable green certificates. This system's goal is to bring competition between green electricity producers. The tradable green certificates system allows selling electricity generated from renewable sources at market prices, as conventional electricity. The additional cost for generating electricity from renewable sources is covered by the sale of green certificates. A complete new market for green electricity is created.

The green certificates market that is separated from the electricity. [4]

- The Thermal Rehabilitation Program addresses to the owners associations that want to increase the energy performance of the housing blocks built on the basis of a project elaborated in the period 1950-1990, regardless of their heating system.

The thermal rehabilitation consists of: thermal insulation of the external walls of the block; replacement of the windows of the block and of the existent exterior doors with qualitatively superior ones, which will better insulate each room; thermal and hydro-insulation of the roofs or the terrace / thermal insulation of the floor over the last level, if the building has a truss roof; thermal insulation of the floor over the basement, if ground floor apartments are provided in the blocks design; dismantling the installations and equipment located on the façades and the terrace of the housing block as well as re-installing them after the end of the thermal insulation works; restoring works for the finishing of the envelope.

With this program the Romanian government wishes to achieve a downsizing of energy consumption for heating. This program has also a social side materialized in smaller heating bills for the beneficiaries of the program. Even though it isn't a strategy regarding the renewable energies it is a program worth mentioning in this paper for two reasons. The first is that it is included in Romania's sustainable development strategy and second because this could be an important strategy for a next step: the use of renewable energies in independent electricity and heating systems for houses and blocks of flats. In other words it is a step towards the passive buildings or the zero energy buildings, the buildings of the future.

- 2008 the government developed a program called "Green home" through which the physical persons and the public institutions could receive grants to transform their houses in green houses, in other words finance for renewable energy technologies such as solar panels or geothermal pumps for homes. The program for this year is expected to start in may 2010 having the same form as in 2008. The beneficiaries would receive as subventions 70-80% of the amount needed to buy and install a heating systems based on renewable energy.

In 2009 the classic heating market was reduced by 60% in its volume and 40% in value compared to 2008. The solar heating systems, on the other hand, have kept on growing thus reaching 25.000 m² in 2009.

The market is still too small for the companies involved so as to achieve profits from this project. The government project also showed a significant negative effect. The result of the publicity made around the program triggered a disturbance of the market. The potential clients preferred to wait for the program to start before buying the products and last year the program started in the second half of the year. Also the difficult bureaucratic process is an important slowing factor. For 2010 after a difficult year the program is expected to be a breath of fresh air for the companies in the field of renewable energies.

- The significant drawback for Romania is that although it has an extremely high potential regarding the production of renewable energy this sector doesn't have a final legislation. The existing laws are not coherent and applicable. The implementing rules don't exist. The effects of this fact are negative. For example 2010 was expected to be the year that would bring investments amounting to 2 billion Euro only in the

field of wind energy. Until now there are 50 turbines installed and working, the rest of them existing only in documentation. The banks will not finance this sector until the implementing rules for the existing law are published.

5. Conclusions

As we could see Romania has quite a good Strategy for Sustainable Development and is establishing an action plan to reach the national goals regarding renewable energy. The strong part of the strategy is the fact that it is closely following the EU strategy regarding renewable energy.

But this can also be a weak point of the strategy. As I will show in another paper it doesn't leave much space for individual initiatives and it doesn't really exploit Romania's own potential. Also the authorities show carelessness by not publishing the necessary laws to establish to legal framework and to support this sector. Under these circumstances the financial aspect remains of secondary importance. The investors are big foreign companies that could have the financial power to support the investments in Romania if they could trust a stable legislation.

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