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## **GONE WITH THE WIND AT 600 MW SPEED GREEN ENERGY PROJECTS FROM SUSTAINABLE SOURCES ARE SPEEDING UP**

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Coping with the dramatic and cruel reality of fossil fuel troubles, as they become more and more expensive, hard to find and obtain commercially, and harmful for the environment, municipalities and companies and lately the Government are fast-tracking cash into green energy projects. As in every winter in the northern hemisphere in mainland Europe, Romania relays heavily on the Russian conglomerate Gazprom gas supplies.

According to PM Network publication and based on its verified sources, in 2007 approximately US\$148.4 billion amount was spent for the new investment in the worldwide sustainable energy sector, 60 % growth from 2006. Of this US\$ 50.2 billion was put to work in wind technology accounting with a portion of only 5.4 % corresponding to worldwide energy supplied from sustainable sources.

So far Romania has had a shallow interest for the sustainable energy and has based its energy production on a blend of fossil, hydro and nuclear sources. For a decade the financed programs and projects were meant to keep the old Russian type capacity running, or upgraded to a commercially sustainable level of operation. Besides, since 1996 to date only two nuclear reactors were commissioned with another two on the way and benefiting from the lack of any environmental activist opposition. The voice of the public is weaker in the region than in any other Western European country and that explains why Greens did not make a way on the political scene so far. Nevertheless, nuclear energy has its development program undisturbed by any environmental opposition.

The turmoil on the energy market, international exposure and dependency on Russian gas, as well as the much hedging on the gas pipeline projects which ended up with regional conflicts, all these have convinced the Government it is high time to turn to sustainable sources - to complement the demand or to lessen the massive expenses each year that gas and oil bills incur.



With an unsatisfactory capacity utilization of only 7 MW of wind produced energy so far, Romania has no other choice than to put the sun and wind to work all together.

The first major breakthrough was made this year when CEZ a prominent Czech Energy group with over 7 million customers in Europe, 14,300 MW installed power and 30 billion Euro stock exchange capitalization and with operations in 10 countries, signed an agreement with Continental Wind Partners for 1.1BE for the acquisition of two wind projects in southeastern Romania. These two projects will jointly form the largest wind farm energy generation in mainland Europe, producing almost 600 MW.

When Continental Wind Partners (CWP) LLC entered Romania back in 2006 its first action was to finance wind farms development in Romania and Poland. Some 4500 MW active wind turbine clusters have been commissioned since then. Along with the local partners, CWP secures the land property for the future wind farm, runs the studies and wind surveys, procures the turbines and ancillary equipment, and gets the paper clearance through the local regulations or sign the contracts with the potential customers.

The location was carefully studied and selected north of Constanta City at approximately 17 kilometers from the Black Sea costal region, where studies and technical surveys determined that the wind speed as well as the impact on the environment are at their optimum decision points. The project was divided in two phases, the first stage will generate 347.5 MW from 139 wind turbines, General Electric types, installed on the GE 2.5xl turbines with a 100-meter hub height and 99-meter rotor diameters at the blade's tip. Each turbine individually will generate 2.5 MWe and the first phase is to be completed at the end of 2009.

GE Energy



The second phase of the project will generate 252.5 MW and will have most probably the same equipment profile. Its completion is estimated at the end of 2010, when the whole wind farm will account for almost 30 % of the entire sustainable energy ever produced in Romania.

Despite the superficial accomplishments attained so far with these tiny 7 MW capacities, Romania is seen as having a great wind energy potential of almost 14,000 MW, double the country's energy demand to date. The Government has looked at wind energy as a pilot project and efforts made until now were perceived as pioneering a new domain rather than

being a commercially sustainable power production sector. Due to lack of Governmental support the cost of a wind farm is doubled by the taxes to get access to the transmission grid, while in Western Europe the government itself back up the local access taxes.



Czech based CEZ Group is the first to make concrete steps so far on a larger scale. Now they are not walking alone in the field: plenty of big energy names are following the business closely since there is definitely a high potential in energy production projects after years of modest approaches.



German Utility EON with operations in northeastern Romania plans to supplement its energy distribution business with wind-based energy production as well.

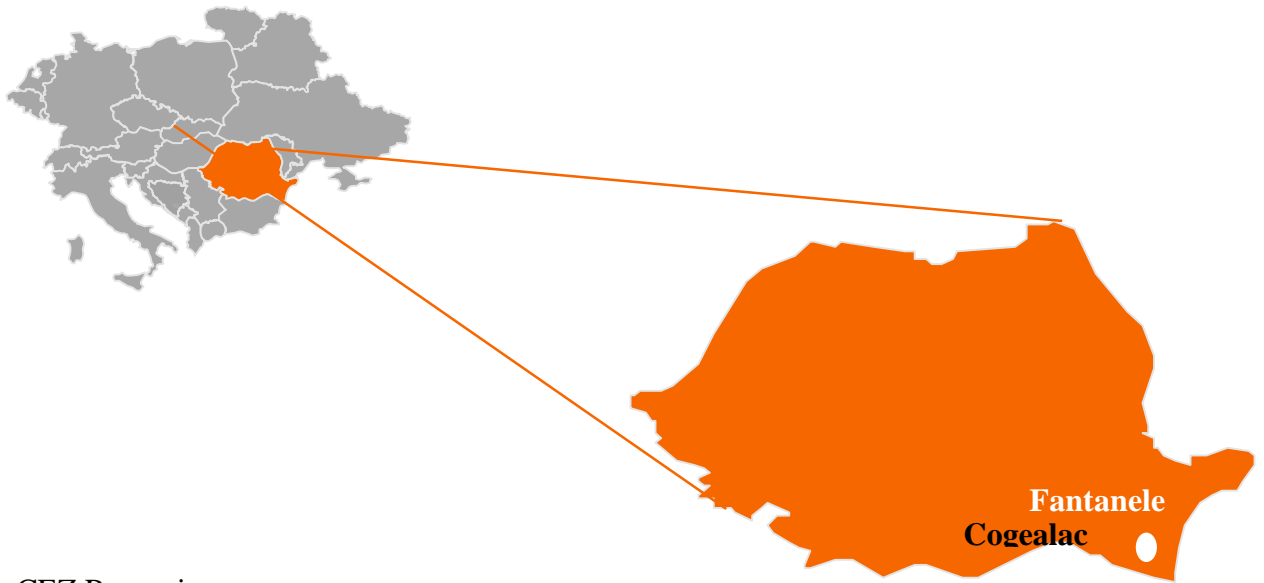
Major energy companies entered the local market more than three years ago, but their projects are now effectively just starting.

Specialists have said that it is less likely that projects involving energy giants in Romania will be impacted by the global crisis. They added that the state production sector monopoly is to be replaced by a private producer in six to seven years. Major energy companies entered the local market more than three years ago, but their projects are now effectively starting following the changes in ownership that have occurred in the last 5 years. Slowly but surely Enel, RWE, CEZ or GDF Suez have made decisive steps towards breaking the monopoly on the electricity production in the market, which has an annual value estimated to be 4 billion Euros.



After years of government dominance in the power sector, CEZ has made the first move in the energy production market with the wind farm project. Definitely the state ownership is going to be shaken up from the last penny in the upcoming years so that it will have to entrust the business to a more sound and flexible approach, like those displayed by powerful companies. It is surely the beginning of a transition process whose end will alter the energy landscape in Romania. Some of the top players have given their preferences for brown field rehabilitation projects of existing outdated obsolete capacities, while others have chosen to start from scratch with green field projects with wind, solar or fossil powered production capacities.

Even though the forecast for 2009 postulates a 9 % decrease in power production, there is still margin for improving both the supply and demand.



Source: CEZ Romania

### 600 MW WIND FARM PROJECTS

Looking at the grade of penetration of wind energy in Europe, one might conclude that the move taken by CEZ is a natural tendency to exploit sustainable resources available at a relatively low cost but with a tremendous impact on environmental preservation, a subject that become more and more sensitive in the last years. Embarrassingly, Romania is not part of the picture but hopefully, this will change in the next two years.

Country	Capacity in MW
Czech Republic	116
Belgium	287
Bulgaria	70
Denmark	3 125
Estonia	58
Finland	100
France	2 454
Ireland	805
Italy	2 726
Cyprus	0
Lithuania	50
Latvia	27

Country	Capacity in MW
Luxemburg	35
Hungary	65
Malta	0
Germany	22 247
Netherlands	1 746
Poland	276
Portugal	2 150
Austria	981,5
Romania	7
Greece	871
Slovakia	5
Slovenia	0
Spain	15 145
Sweden	788
Great Britain	2 389

*Source: Installed capacity in wind power plants in EU countries (at the end of 2007) EWEA*

Although there are voices who say that installing wind turbines is not accurately harmless for the environment, and the modification to the streams and winds could incur serious climate changes in the long term, one issue is clear: there must be a balance between going in the direction of wind farms and waiving the agriculture production from the crops harvested on the given land.

With the lack of any study results or engineered conclusion, it may be assumed that a significant MW per acre ratio could become a critical parameter for investment, among others.

At inception of the wind projects way, the companies will negotiate plot acquisition with the government as owner of the land. However, as soon as land availability drops we might find ourselves in the same situation as in the Bechtel Motorway Project: stuck between land owners and Government for expropriation. The issue has its significance in a country many years viewed as relying on agriculture for a big portion of GDP contribution. Since studies accredit the northeast and southeast of Romania with highest wind energy potential so for, it is also where agriculture is applied for the largest pieces of cultivated land.

How the energy players will deal with plot acquisition for their green field projects when economical benefits collide with other stakeholders will be of high interest for an observer to follow closely.

## About the Author



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