

Project: Wind and PV Plants in the Balkans

Location: Bulgaria, Greece, Egypt

The Market:

Around 700 MW of wind farms are already installed in Bulgaria, and another 200 MW is in the pipeline, according to Yordan Mihaylov, managing partner at MASS Energy Systems LLC, a company investing in renewable energy parks in Bulgaria and other countries. EBRD noted in its analysis that “Bulgaria’s advantage, apart from the existing wind potential, is the supportive government with a pro-active regulatory approach.”

“I would say that the Bulgarian legal framework is in a much better position than the Romanian one at the moment,” Mihaylov told IPS. “Currently, the Bulgarian government issues 15 years contracts for 100 percent purchase of the electricity (produced by wind parks) at subsidised rates.” Most producers are likely to get a high percentage of their production subsidised at high rates, says Mihaylov. “There are still many gaps in the contracts that are issued, but I am happy to say that the government is working on fixing them.”

On the other side of the border in Romania, less than 100 MW production capacity has been installed so far. Applications for projects adding up to 17,000 MW capacity have been filed by investors with the national electricity authority, but barely a fraction of this will materialise. Some of the proposals are not serious, and so authorities are right to turn them down, says Radu Voinescu, managing partner at Boeru Voinescu Group, a leading wind energy consultancy in Romania.

Another reason for low acceptance of wind park proposals is that the national electricity grid can sustain at most 2000 MW wind power, says Voinescu. Wind power needs special adaptations of the grid to store energy for the times when the wind is not strong enough. Expanding and adapting the electricity grid will need billions of euros, and political will to support renewables.

Bulgaria set for 10x growth in wind power by 2020

Bulgaria is one of the fastest-growing wind energy markets in the world, according to a new report from the European Wind Energy Association. Bulgaria has already installed wind capacity this year, reaching 700 megawatts—up from 158 megawatts at the end of 2008, according to the EWEA. The growth comes after Bulgaria tripled its wind energy capacity the previous year, up from 57 MW at the end of 2007, according to the Global Wind 2008 Report from the Global Wind Energy Council. EWEA predicts that Bulgaria’s wind capacity will expand to more than 3,000 MW by 2020— representing 13.5 percent of Bulgaria’s projected electricity demand. If the projections are realized, the country will easily meet its European Union mandate for 16 percent of electricity demand to come from renewables by 2020. Bulgaria currently gets 9.4 percent of its electricity from renewables, the EWEA says. That situation would allow Bulgaria to sell renewable energy to its neighbors struggling to meet the EU targets, creating revenues of EUR 7.5 billion to EUR 10 billion (\$10.5 billion to \$15 billion) by 2020, the Bulgarian Ministry of Energy said today. If current planning and grid access barriers are streamlined, Bulgaria will soon be one of Europe’s wind energy front-runners,” he said in a news release.

Wind potential in Bulgaria

Among other countries, Bulgaria also offers potential for construction of wind farms, more specifically along the coastal line and at places with altitude of 1000 meters or more. Future development in suitable

mountainous areas or at places with slower wind velocities depends on the implementation of new technical solutions.

Turbine performance depends on wind velocity and turbulence, tower height and air density, therefore it is important to know the specific potential of the Bulgarian region chosen for installing the wind facility, and the conditions under which this potential has been obtained.

There are 119 weather stations in Bulgaria, which register wind velocity and direction.

The Project:

The project consists of the following sub-projects:

1. A wind farm under development. The park layout currently proposed consists of a wind farm of 40 MW (expandable up to 200 MW) to be implanted in the municipality of Krushari, close to the Dobrin village, in Bulgaria. The Investor (FN) agrees to acquire a 36% stake in the Share Capital of the Company consisting of ordinary shares (Equity Financing), which, based on the valuation of "LVT Capital Advisors", is equal in value to the amount of fourteen million and four hundred thousand (14,400,000) Euro, at the privileged price of nine million two hundred thousand (9,200,000) Euro. The 50% of its total financing equal to 4,600,000 euros is paid by the decision to list the Company through a legal vehicle on a second stock exchange market (after the listing on the Bulgarian Stock Exchange), i.e. completion of the double listing on the Frankfurt Stock Exchange with the decision to approve this listing by the competent supervisory body (Securities and Exchange Commission).
2. A photovoltaic (PV) power plant to be located in Pernik, Bulgaria (around 25 km south-west of Sofia). The 26 MW Park is already at the stage of the PPA with Alpiq at a price of 0,040 €/kW. The investment grants a production license for up to 200 MW.
3. A photovoltaic (PV) power plant to be located in Egypt (around 70 km north-east of Kairo). The 35 MW Park is located on a land of 110 hectares and is already at the stage of the grid connection & distribution license. The investment may expand up to 100 MW.
4. A photovoltaic (PV) power plant to be located in Thesprotia, Greece. The 12,5 MW Park is already at the stage of the PPA with HEDNO (DEDDHE) at a price of 0,065 €/kW.

Budget and economic Figures:

1. Plant 1 (Wind Farm 40 MW)

• Total Project Budget:	46.000.000 €
• Investment by AENAOS LLC:	9.200.000 €
• Leverage:	36.800.000 €
• Expected EBITDA:	4.500.000 €
• Exit option on connection to the Grid:	64.000.000 €
• Profit for AENAOS LLC (in 2 years):	10.400.000 €

2. Plant 2 (PV Park 26 MW, Bulgaria)

• Total Project Budget:	16.380.000 €
• Equity by AENAOS LLC:	2.300.000 €
• Leverage:	14.080.000 €
• Expected EBITDA:	2.100.000 €

3. Plant 3 (PV Park 35 MW, Egypt)

• Total Project Budget:	22.750.000 €
• Equity by AENAOS LLC:	4.550.000 €
• Leverage:	18.200.000 €
• Expected EBITDA:	3.750.000 €

4. Plant 4 (PV Park 12,5 MW, Greece)

• Total Project Budget:	9.900.000 €
• Equity by AENAOS LLC:	1.980.000 €
• Leverage:	7.920.000 €
• Expected EBITDA:	2.200.000 €

Current Status:

- **Plant 1:** In negotiation for the final agreement for the grid connection.
- **Plant 2:** Waiting the PPA with Alpiq at a price of 0,040 €/kW.
- **Plant 3:** Waiting the grid connection & distribution license.
- **Plant 4:** Waiting the PPA with HEDNO (DEDDHE) at a price of 0,065 €/kW.

To Do:

- Due diligence for each project (technical, legal, financial, through the d.d. of FN)
- Acquisition of the projects through the acquisition of FN Development