

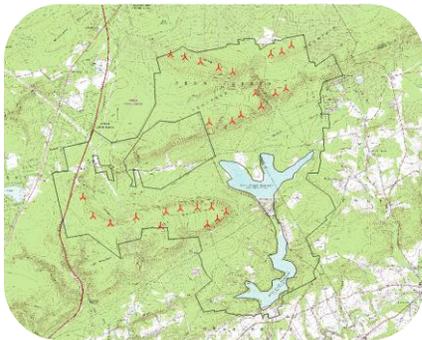


## Bethlehem Authority- Delsea Energy *Feasibility, Wind Assessment, Financial 2009*

In May 2009, EAPC Wind provided Delsea Energy, LLC with a feasibility study for a project with over 12,323 acres of land. The feasibility study included a fatal flaw analysis, wind resource assessment, and a financial model.

EAPC Wind performed a fatal flaw study using GIS software to review the site for potential fatal flaws. The study included reviewing wetlands, nearby airports, microwave interference, transportation/constructability constraints, environmentally sensitive areas, zoning regulations, and other exclusion areas. To determine where turbines could be placed, a buildable area was established excluding a state forest and the Penn Forest Reservoir, both removing a significant amount of land.

In addition to the initial 'fatal flaw' study, EAPC Wind modeled the predicted wind resource and potential energy production figures for five different wind turbine models. With such a big area and various wind speeds, EAPC Wind worked with the client to focus on three ridgelines with the best wind within the buildable area. In this process only the two



best performing turbines were modeled to produce energy production figures. EAPC Wind ran each of the three areas separately as their own project to calculation production numbers. This was so the client could see which area(s) they should focus on and start with first.

EAPC Wind later ran an economic model detailing the predicted return on investment the client would expect to see. Delsea Energy, LLC was able to make an educated decision on whether to move forward with an on-site wind measurement program.

### **Client:**

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### **Services Rendered:**

- Wind Feasibility Study
- Fatal Flaw Study
- Wind Resource Assessment
- Economic Analysis
- Marketing services: calculation of potential customers served and avoided pollution.

### **Key Achievements:**

- Equipped client with information required to make go/no-go decision.
- Identified optimal wind turbine model and layout for site
- Provided project economics for potential project