

Wind Project Development

A Due Diligence Checklist

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The following checklist can be used to evaluate your level of preparedness in pursuing a wind-based energy generation project for either a distributed generation or commercial wind project. The following considerations in wind project development are adapted from information provided by the National Renewable Energy Laboratory¹. In general, the eight steps and associated questions presented below are sequential.

1. Site Selection

- _ Is there significant evidence of wind at the proposed project site?
- _ Does the proposed project site have transmission or distribution line infrastructure sufficient to support the proposed amount of power generation?
- _ Is there reasonable road access to the site?
- _ Are there significant environmental concerns?
- _ Is the project located in a receptive community?
- _ What is the cost and associated time line of determining the project site?

2. Land Agreements

- _ Does the project developer have “site control”? Note: Site control is defined as having either ownership or a documented land lease in place.
- _ Is site control established for the life of the project?
- _ What rights are required for the project site? Wind rights? Ingress/Egress Rights? Transmission Rights?
- _ How is the land owner compensated for the lease?
- _ Is the lease assignable?
- _ What indemnifications are required between the project and the lessor?
- _ What reclamation provisions are associated with the proposed project site?
- _ What is the cost and timeline of developing, negotiating, and securing the land agreement?

3. Wind Assessment

- _ Is there sufficient anemometer data available on the proposed project site? (Wind industry developers typically require a minimum of one year’s data and expect a quality report certified by a meteorologist).
- _ Has the wind data been utilized to develop output projections for various turbine designs?
- _ What is the cost and timeline of completing the wind assessment?

¹ Osborn, Dale. (1998). *The Wind Project Development Process Developed for the National Renewable Energy Laboratory*. Retrieved May 1, 2007 from http://www.eere.energy.gov/windandhydro/windpoweringamerica/pdfs/wind_development_process.pdf

4. Environmental Review

- _ Has a cursory review for endangered species been completed?
- _ Has an avian study been completed? (Avian studies include analysis of raptors, migratory birds, reviews with interested parties including local Audubon, local stakeholders, federal authorities, and state authorities)
- _ Is the project proponent prepared to develop, conduct, and report environmental studies as required?
- _ Have visual studies been completed and reviewed with local stakeholders?
- _ Have historical and archeological reviews been completed on the project site?
- _ Has a wetlands review been conducted on the project site?
- _ What is the cost and timeline associated with completing the environmental review?

5. Economic Modeling

- _ What are the output projections of the proposed project?
- _ What are the specific costs of turbines, blades, electronics, and towers?
- _ What other plant costs will be incurred? (Other costs include, but are not limited to foundation, padmount transformer, collection system, cables, erection, substation, and communications and control system.)
- _ What warranties are offered with the equipment?
 - Equipment
 - Maintenance
- _ Are there taxes associated with the proposed project?
- _ What are the project's O&M (operation and maintenance) estimates?
- _ Who will complete O&M work for your project?
- _ What is the rate of return on the equity investment?
- _ What financing debt is required?
- _ What is the source of financing debt?
- _ What is the term of the financing debt?
- _ What assignable documents are required?
- _ What are estimated expenses associated with third party due diligence?
- _ What financial assumptions can be drawn from the proposed project?
 - Projected Cash Flow
 - Production Tax Credits
 - Equity Rate of Return
 - Debt: Rate and Term
 - Coverage Ratios
 - Debt/Equity Ratio
- _ How long will this process take?

6. Interconnection Studies

- _ Has an interconnection study been completed for your proposed project? Interconnection studies are conducted with the utility and include analysis of capacity limitation, load flow, voltage controls, and system protection.
- _ If not, what application fees apply to your project?
- _ What deposits are required as part of your interconnection study?

- What approximate timeline might be expected for your study to be completed?
- What other legal or consulting fees might be associated with the interconnection study?

7. Permitting

- What state, local and/or federal permits are required for your project site?
- Do you have a land lease permit?
- What building permits might be required?
- What costs will be incurred as a result of the permitting process?
- How long will it take to obtain the permits?

8. Sales Agreements

- Has a power purchase agreement (PPA) been negotiated? (PPA should include kilowatt price and term with a credit-worthy buyer)
- Facility cost - what is your estimated turn-key price (price of the complete wind power facility)?
- What costs will be incurred as a result of negotiating and establishing the turn-key cost?