



Advancing Wind Power in Illinois Conference 2011

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Project Valuation

Breakout Seminar

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Valuation of Renewable Projects at Each Stage of Project Development



Trintek Energy Consulting, Inc.
Creating Competitive Advantage Thru Intelligent Development

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Overview

- Many wind energy projects/companies have been for sale.
- However, a lot of deals discussed, never get closed.
- A big reason is buyer-seller perception differences or gaps.
 - ❑ Market's solution is to leave the value undetermined and use "earn-out" structures with milestones to be met.
- Educating buyers and sellers on value at each milestone in development is a start in closing the "value perception gap".

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Purpose

- The purpose of this topic is to examine:
 - ❑ The milestones defining a wind project development process.
 - ❑ The percentage project completion at each milestone.
 - ❑ The amount of project capital allocated to each milestone.
 - ❑ The remaining risk left in the project at each milestone or stage.
 - ❑ The value of the project at each milestone in development.

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Market Value

- Valuation is not an exact science, there is some art involved.

Theoretical Definition

- A transaction involves a willing buyer and a willing seller.
- Both parties act in their own best interests to get the best price.
- In theory, both have equal bargaining power and equal information.
- This results in a transaction at “Market Value” .

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Buyer-Seller Dance

- Why can't buyers and sellers meet each other's expectations?
 - ❑ It's a little like selling your home—you always believe it is worth more than the other fellow does.
- Volatility of power prices, turbine costs.
- Volatility of financing alternatives.
- Volatility of regulatory changes, PTC, ITC-Cash Grant, RPS's.
- Going forward, the reality of transmission, zoning, and PPA availability (price of Natural gas), vs. yesteryear's low hanging fruit.
- Wall Street myths, apples and oranges comparisons.

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Definition of Milestones

• Wind Site Selection

- Research sites-desk top reviews

- Site prospecting –travel

- Transmission screening-
-possible load flow modeling

- Zoning screening-read ordinances

- Talk to county officials, etc.

- Wind resource estimates
-meteorological models/reports

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Definition of Milestones (Cont.)

• Site Control and Wind Measurement

ADD:

- Obtain long term wind leases

- Install met towers

- Collect and analyze actual site wind data

- Obtain consultant’s report i.e., a “wind study”.

**•Hey - Do we have a \$150,000 per MW
Yet?**

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Definition of Milestones (Cont.)

Fully Developed Site, ADD:

- Environmental due diligence and permitting
- Obtain all permits and zoning –w/non appealable approvals
- Surveying
- Site layout
- Project economics model
- Obtain signed interconnection agreement
- Executed project contracts: PPA, turbine purchase, B.O.P. construction, tax abatement, LTSA, etc.
- Two year wind study

Percentage Completion by Milestones

- Hint, site selection, site control, and wind measurement is maybe 15-20% completion, and not a major cost component.
- Estimating % completion will be project specific and part art as well as science.
- Percentage completion on a project to obtain a PPA in Texas at a node with negative electricity pricing where gas is on the margin, will not be the same as for a PPA in the Midwest.
- Interconnection queues are a big variable, regionally.
- Three years ago, turbines vs. no turbines was a bigger factor.

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Allocation of Risk Premiums

Wind Project Development Life Cycle
Assumes 100 MW Block of Wind Power

SNO	KEY STEPS	ACTUAL COST/MW \$/MW	RISK PREMIUM ABOVE COST \$/MW	MARKET VALUE (ACT. COST PLUS PREMIUM) \$/MW	PERCENTAGE OF TOTAL COST %	PERCENT COMPLETION %
		A	B	(A+B)		
1	SITE SELECTION					
2	SITE CONTROL / LAND AGREEMENTS					
3	WIND ASSESSMENT					
4	ENVIRONMENTAL REVIEW					
5	PERMITTING AND ZONING					
6	SURVEYING					
7	ECONOMIC MODELING					
8	INTERCONNECTION STUDIES					
9	DEVELOPMENT TEAM WAGES/SVCS.					
10	NEGOTIATION OF PPA					
11	TURBINE PROCUREMENT					
12	CONSTRUCTION CONTRACTING					
13	FINANCING, INCL DSR, IDC, FEES,					
14	WORKING CAPITAL					
15	DEVELOPMENT FEE PAID OUT					
16	CONTINGENCY					
	MISC & ADMIN OVER HEAD					
TOTAL COST TO DEVELOP AND CONSTRUCT \$/MW		1,500,000*	Sum of B \$/MW PREMIUM	Sum of A+B's \$/MW MARKET VALUE	100%	100%

**Normal Terrain and Interconnection costs
2012*

**(EXPRESSED IN \$/KW)*

\$1,500.00

NOTE: \$/MW MARKET VALUE
TIES TO SNPV/MW FROM ECONOMICS MODEL
(Look at Levered and Unlevered NPV/MW)

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Derive Valuations by Milestone

- Valuation is tied to the \$NPV from the project economic model.
 - If project is completed, it is worth \$NPV/MW.
- Valuation is then allocated to development cost steps/activities.
- Can enter risk premium spreadsheet, and derive \$/MW value for a certain set of milestones or certain percentage of completion.
- This approach works on a specific project or multiple projects sharing the same or nearly identical characteristics, i.e., Midwest, 33% C.F., same tax jurisdiction, etc.

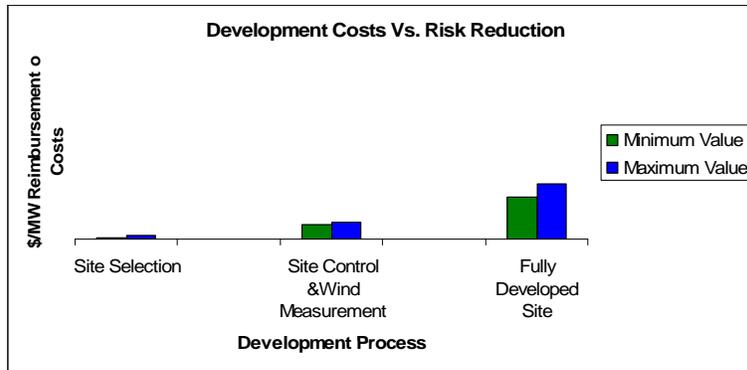
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Example

- Some activities/costs add little value-just needed to play
 - Surveying, Contingency, Overhead, etc.
- Can value each activity as an option
- Interconnection – actual cost \$350,000
 - Assume this is also the strike price
- Can go completely through the queue and expire worthless
- Knowing the actual cost and strike price, and the time schedule to complete the activity, can pick an analogous volatility and back calculate the value of the call option and hence back calculate the (risk premium).

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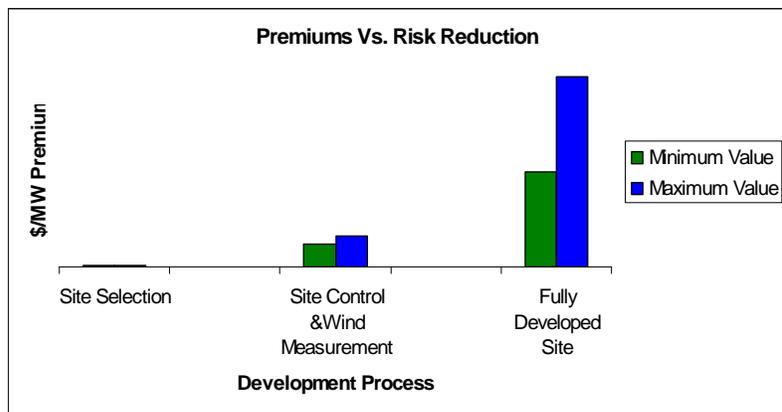
Actual Development Costs Reimbursed



- Costs for land leasing and wind measurement for several years is a small portion of development costs and overall risk reduction.
- Actual dev. costs are reimbursed above and beyond the risk premium.

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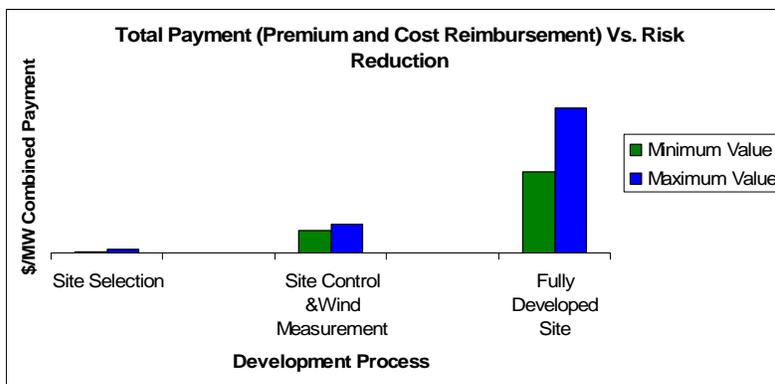
Premiums Paid Vs. Risk Reduction



- Premium increases dramatically with completion of development.
- Range depends on wind resource (NCF), property taxes, PPA pricing, etc.
- Projects in a class 6 wind resource with an \$80/mwh power price are worth more than class 4 sites with \$60/mwh pricing

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Total Market Value



- For a finished development with risks largely mitigated and construction pending.
- Only the highest quality sites are valued in the upper range.

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Customize Project Model

- Especially for specific tax provisions
 - Value of step up in tax basis for the asset, if any
 - Reduced capital gains to seller
 - Increased depreciation deductions for buyer
 - Differing tax jurisdictions-especially property taxes
 - Key valuation difference – 10-15 year property tax abatement vs. property taxes of \$15-25,000/per turbine per year.
 - Industrial machinery exemptions-or enterprise zone sales tax exemptions are worth millions.

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How Much Does Valuation Depend On Who The Buyer Is?

- Strategic or balance sheet buyer may have different motives.
 - ❑ Build critical mass for the business quickly.
 - ❑ Build MW pipeline and portfolio on PE multiple gap in stock market vs. asset market.
 - ❑ This buyer likely has the lowest cost of capital, therefore the lowest discount rate = big advantage.
- In order to accomplish goals, may desire to bid assets to break-even, i.e. to the unlevered discount rate where NPV= zero.
- These buyers may even be ignoring the cost of back leverage at corporate level required on the margin, at a later date.

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How Much Does Valuation Depend On Who The Buyer Is?

Strategic or Balance Sheet Buyer (continued)

- May have IPO strategy in which the stock market may pay inflated PE multiples for assets
- Highest valuation may be from this type of buyer.
- This type of buyer is more likely to bid on a whole company or portfolio basis.

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Other Buyers – Purchasing For A Return in the Asset Market

- Most buyers will want to make a normal return on the acquisition.
- I.e., what a buyer can afford to pay and still make a reasonable levered after tax return of around 15% assuming approximately 60% leverage at project level.
- An asset buyer focused on value creation on a project basis in the asset market will not be able to match the \$/MW that strategic buyer will perceive due to the lower cost of capital of the strategic buyer.
- Market appears to over-price assets--sellers under estimate operating costs, property taxes, working capital, and a number of costs, intentionally or otherwise.
- If so, this may suggest more of a Greenfield strategy, or at least points to focusing on purchasing earlier stage assets which should not command as much premium valuation.

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How Does Reimbursement of Dev. Costs Fit In?

- Confusion in discussing \$/MW market value. Does it include reimbursement of imbedded actual costs?
 - Yes as defined in this presentation and its assumptions.
 - The combination of actual cost and risk premium is the market value of the project.
- The risk premium paid is generally the “development fee” plus the increased value created by risk reduction across every activity in the project development process.
- Reimbursement of actual costs is usually in addition to the development fee and the risk premium.
 - Reimburse all actual documented costs that the developer can substantiate with bona fide verified receipts.

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Detailed Due Diligence Check List

- Due Diligence Issues Will Also Affect Valuation

Wind Resource

Transmission

Match Land, leases vs. title search and survey

Zoning vs. layout- Design MW's vs. real MW's

Permits

Economics Model

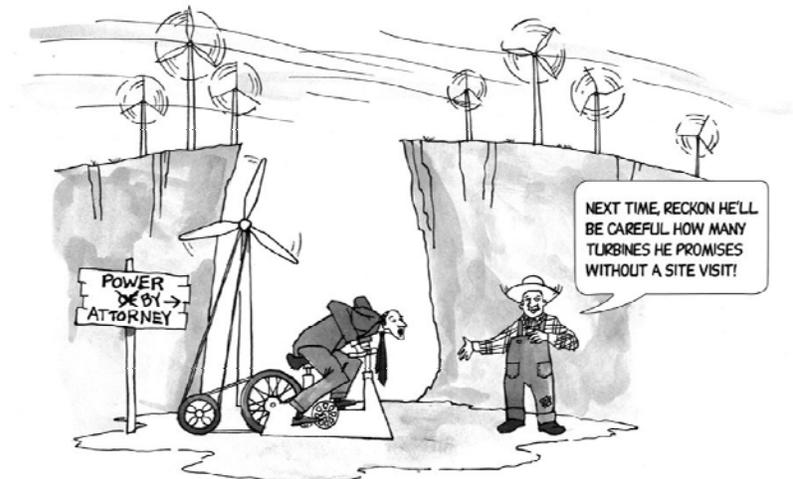
Project Contracts

Financing

Schedule

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Layout Mistakes Also Affect Valuation



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Got \$/MW?



Value is in the eye of the Beholder....