Advancing Wind Power in Illinois Conference 2011

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Why Are PPAs Necessary
Breakout Seminar

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Illinois Wind Working Group
Annual Conference
Craig Gordon

Why Power Purchase Agreements are Necessary
July 21, 2011

Fully Integrated In-House Capabilities

DEVELOPMENT
- Dedicated development team
- In-house wind resource expertise
- Permitting, transmission, and interconnection expertise

ENERGY MARKETING/ FINANCING
- Well-structured long-term power purchase agreements
- Extensive project finance expertise

ENGINEERING/ CONSTRUCTION
- Dedicated engineering team
- Leadership in wind energy project construction

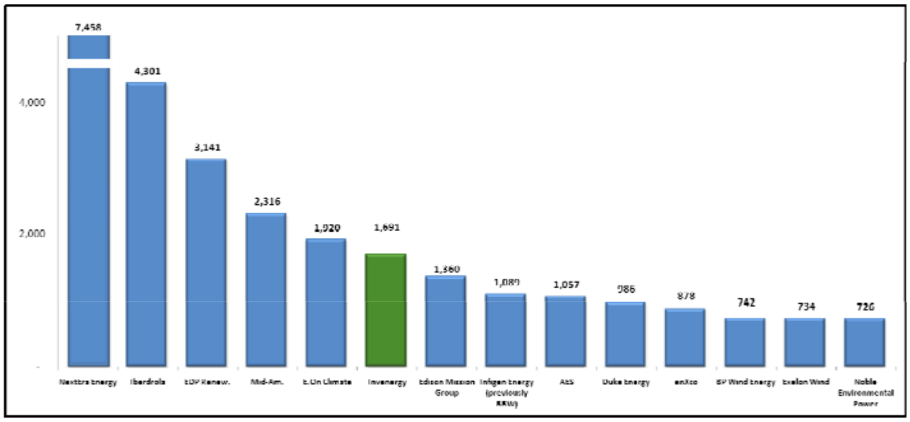
OPERATIONS
- Invenergy Services currently managing the construction and operation of more than 2,500 MW of wind projects

BENEFITS
- Control the value chain
- Shorter development cycle
- Economies of scale
- Minimize execution risk
- Ownership mentality

Largest Independently Owned Wind Energy Company

- One of the six largest owners of wind assets in the U.S.

2010 U.S. installed capacity (MW) wind ranking



Source: AWEA 2010 U.S. wind managing ownership rankings excluding MW for build-transfer and similar arrangements; including these items Invenergy is #5 with 2,159 MW.

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Where are we going?

- I. Background Information
- II. Common PPA Features
- III. Overview and Conclusions

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Background Info

So… What is a PPA?

- A PPA is a financial agreement between an owner/operator of a wind farm project and a buyer of the output of the wind farm project. Typically, the buyer is purchasing the bundled product of the wind farm: capacity, energy, and RECs.
- A truly successful PPA must satisfy the needs of:
  - The Seller
  - The Buyer
  - Lenders & Investors

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Background Info

What types of entities sign PPAs?

- Developers
- Investor-Owned Utilities
- Publicly-Owned Utilities
- Co-ops
- Trading & Marketing Companies
- The Government
- School Districts

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Background Info

Why are PPA's so appealing?

- High degree of Standardization

  Yet…

- High degree of Customization
- Can be easily replicated
- It's the Lowest Common Denominator for contracting in the power markets

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Background Info… Some Perspective

Big Investments are made with a relatively short contract

- One 200 MW wind farm at $2,500/kw costs $500 million

That's more than the cost of 6 brand new Boeing 737-800s!
(Source: recent WSJ Article)

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Background Info

Wind Farm Developer Off-take Options

Increasing Risk

- Merchant
  - No Off-take agreement
- Hybrid
  - Energy Hedge
  - REC Hedge
- The PPA
  - Contract for Bundled Energy & RECs

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Background Info

The PPA Option – Least Risk

- Long-term contracts for bundled electricity and RECs
- Price Certainty: High
- Project Location: Anywhere
- Strategy Rationale: High degree of certainty without elevated risks
- Advantages: Revenue clarity. Easier to finance and administer.
- Disadvantages: There is a limited market, and PPA negotiations can take months or years.

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Background Info

The Hybrid Option: Separate contracts for Energy and RECs

- Financial hedges for electricity
- Price Certainty: High
- Project Location: RTO markets
- Strategy Rationale: PPA market may be non-existent (New York)

- Advantages: Gain high degree of price certainty; operational autonomy

- Disadvantages: Term lengths are shorter than standard PPAs; volumetric risk in settlements; credit is much more complicated

- Note: Hedge counterparties are typically investment banks

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Background Info

The Merchant Strategy – Greatest Risk

- No market but the spot market
- Price Certainty: Low
- Project Location: RTO markets
- Size of Owner: Large
- Strategy Rationale: Get it built now, sell it later

- Advantages: Speed and potential upside; counterparty is unnecessary

- Disadvantages: Very difficult to finance on reasonable terms; no assurance of project returns/profit

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Background Info

Off-take Options Summary

- The local power market drives the strategy
- Most developers have limited options
  - Large developers have greater flexibility
- Traditional PPAs are generally regarded as the least risky option for contracting a large wind farm

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The PPA

Typical Elements in a PPA

- The Nuts & Bolts:
  - What, Who, When, Where
- Technical Elements:
  - Initial & Continuing Requirements
- Financial:
  - Allocation of dollars
- Legal:
  - Allocation of risk

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The PPA

The Nuts & Bolts (Facts & Stats)

- Seller/Buyer identification
- Product identification
  - As-available, Bundled, Energy-only, etc.
- Facility Location
- Term length
  - Typically 20 years for a traditional PPA
- Delivery Point
  - Grid location where title on product is exchanged
- Annual Expected Volumes
  - Nameplate Capacity
  - Expected NCF

The PPA

Technical Requirements

- Development Milestones
  - Interconnection Agreement
  - Environmental Permits
  - Easements
  - Special Use Permits
  - Turbine Delivery
- Phase requirements
  - Pre-Construction, Construction, Operations
- Example: Operation Phase:
  - Planned maintenance schedules
  - Availability forecasts/energy forecasts
  - Scheduling responsibilities

The PPA

Financial Considerations

- PPA Price
  - Flat or Escalating
- Development Security
- Operational Security
  - PPA's generally not marked to market
  - Cost of LC's has to be recouped
- Delay Damages
  - Missing major milestones: COD
- Curtailment
  - Who pays for lost energy & PTCs?
- Production Shortfall/Excused Energy

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The PPA

Legal Issues

- Conditions Precedent
  - Off-ramps out of the PPA pre-COD
  - PTC extensions
- Force Majeure
  - What happens when a tornado hits?
  - What about curtailments?
- Change in regulations

  Examples:
  - Wind Integration Charges
  - BPA's Environmental Re-dispatch
- Change in law

  Examples:
  - RPS is terminated or definition of RECs is changed
  - All turbine blades must be painted red

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PPA Overview

Ingredients for great PPAs

- Market experience
- An experienced organization focused on building great projects.
  - Solid Development
  - Solid Engineering
  - Solid Financing
  - Solid Operations
  - Solid Marketing & Origination
- Outstanding external counsel
  - They know where the traps are hidden
  - They know what is financeable

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Conclusions

So, why are PPA's necessary?

- One-shot opportunity to get it right
- Investors and Lenders require them
  - A "great project" without a PPA may never get built
- PPA's allow the Parties to apportion risk in the most cost-effective way
- The PPA is the DEAL

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Questions?

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