



# NATIONAL WIND<sup>™</sup>

## Corporate, Institutional, and Government Opportunities in Community Wind Development

July 29, 2010



# NATIONAL WIND™



**Speaker:**  
**Leon Steinberg**  
**CEO**  
**National Wind**



## WHO WE ARE

- Utility Scale Community Wind Project Developer
- Wind development and management experience
- Contract development of operational and under construction projects
- Unique development model leverages community stakeholder participation to expedite permitting and reduce cash expenditures
- Wind assessment division: Engineering services and meteorological towers
- Based in Minneapolis, MN, with 42 employees
- For more information visit [www.nationalwind.com](http://www.nationalwind.com)

# NATIONALWIND™ DEVELOPMENT PROJECTS



**5000+ MW**

of projects

**1500+ MW** ↑

of projects in early development/feasibility phases

**3500+ MW** ↑

of projects in advanced development phases

**219 MW** ↑

of projects in operation

# Overview

- Part 1: Explore ways your organization can procure renewable energy from a community wind farm
- Part 2: Examine ways your organization can participate in the financing of a community wind farm

# Community Wind

National Wind develops large-scale wind projects that are firmly rooted in the community. Community-based projects differ significantly from traditional models of wind development.

- Local communities play a significant role in decision-making and goal-setting for the project.
- Landowners not only get turbine leases, but also have the opportunity to join the project as part-owners via investment of their wind rights or money.



Utility-Scale Wind Farm, Jeffers, MN

Scalability	Yes
Location	<ul style="list-style-type: none"><li>• On or Offsite</li><li>• On or Offshore</li><li>• Requires good wind regime</li></ul>

# Part 1: Ways to Procure Electricity From a Community Wind Farm

- Renewable Energy Procurement Mechanisms
  - Renewable Energy Credits (RECs)
  - Onsite Renewable Energy Generation
  - Offsite Renewable Energy Generation
  - Utility Green Pricing Programs
  - Windfrastructure Partner Program

# Key Concepts

- **Additionality**
  - Beyond business as usual
  - Will participation result in the construction of a new wind farm?
- **Financial Neutrality**
  - Is the green energy mechanism economically competitive with brown power?
- **Traceability**
  - Can the power user trace the renewable energy to its source of generation?
- **Brandability**
  - Can the power user mention its involvement with or acquire naming rights to the renewable energy generation facility?
- **Environmental Sustainability**
  - Will the power user reduce its carbon footprint?

# Renewable Energy Certificates (RECs)



Credit USA Today

Target Field purchased nearly 8,000 RECs, accounting for 70% of the stadium's energy needs for 2 years.

- One REC equals the environmental attributes of one MWh of electricity generated from a source of renewable energy.
- RECs may be purchased with electricity (bundled) or separate from electricity (unbundled).

Additionality	Maybe
Financial Neutrality	✘
Traceability	Maybe
Brandability	✘
Sustainability	✔

# Captive Wind Farm



Credit CalPortland

California Portland Cement Co. constructed a 24 Megawatt wind farm at its plant in Mojave, CA.

Additionality	✓
Financial Neutrality	✓
Traceability	✓
Brandability	✓
Sustainability	✓

# Third-Party Wind Farm

- Private Power Purchase Agreement (PPA)
  - Power can be delivered via
    - The Grid, or
    - Off The Grid
      - “Behind the Meter”
- Electricity Market:
  - Regulated, or
  - Deregulated
- Example:

Walmart entered into a PPA with a wind farm in Texas that will supply 350 Walmart stores and offices with enough electricity to meet 15 percent of Walmart’s total electricity demand in that state.

Additionality	Maybe
Financial Neutrality	✘
Traceability	✔
Brandability	✔
Sustainability	✔

# Utility Green Pricing Programs

- Allow electricity customers to purchase renewable energy from their electricity provider, usually for an additional cost.

Additionality	Maybe
Financial Neutrality	✘
Traceability	Maybe
Brandability	✘
Sustainability	✔

The Windfrastructure Program allows a power user to purchase renewable energy and receive an economic interest in a new wind farm that will provide electricity to the power user.

Additionality	✓
Financial Neutrality	✓
Traceability	✓
Brandability	✓
Sustainability	✓

# WIND frastructure



***Operations in  
Deregulated and Regulated  
Electricity Markets***

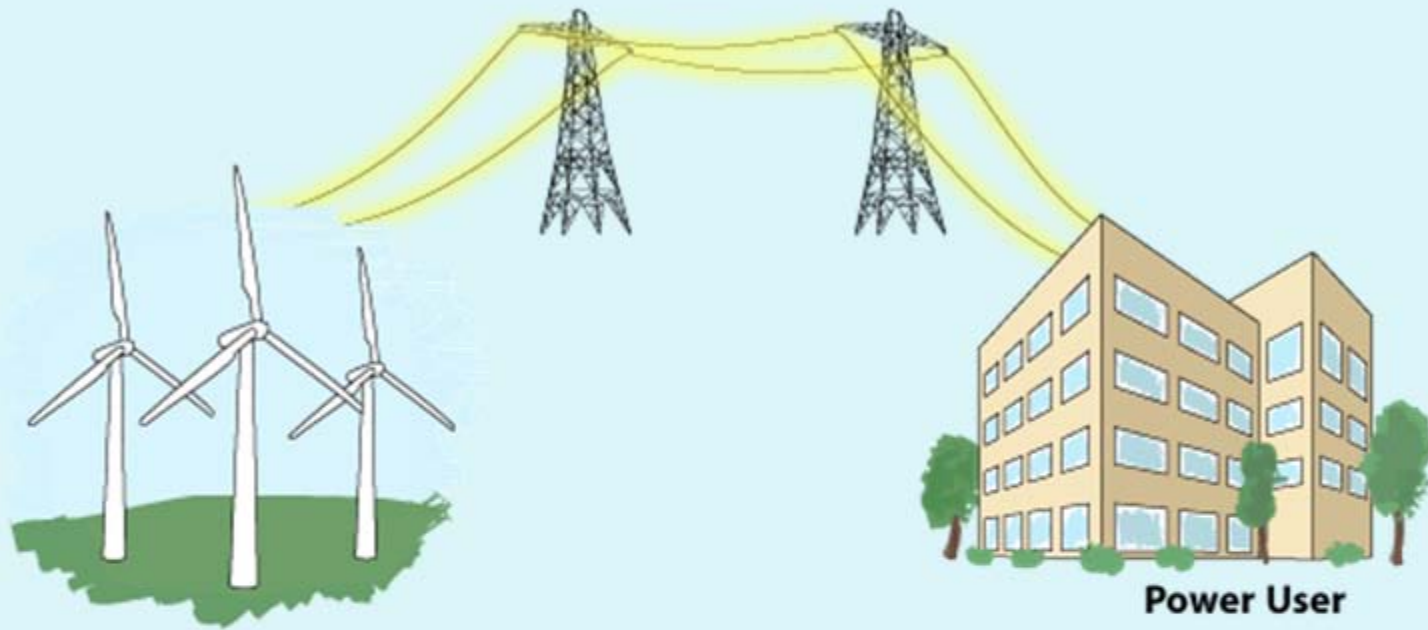
# Windfrastructure Operations in a Deregulated Market



## ***1. Renewable Energy Generation***

National Wind begins by constructing a utility-scale community wind farm in the same region as a large power user.

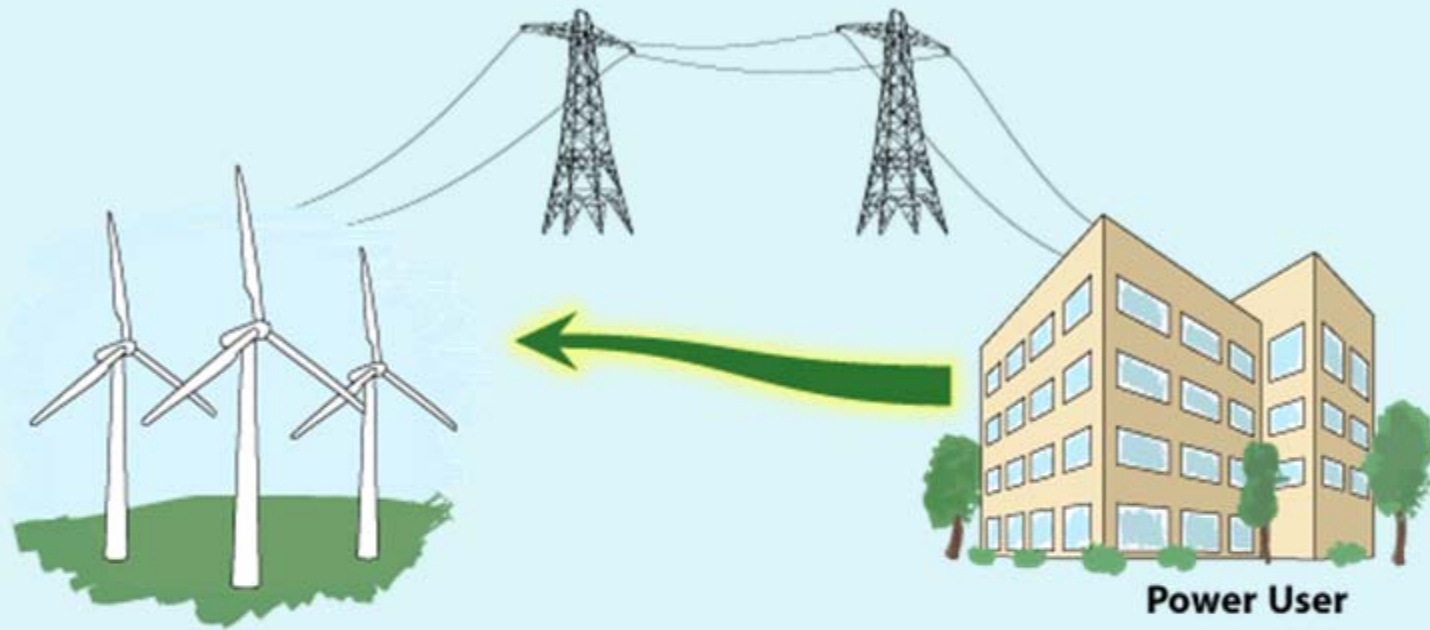
# Windfrastructure Operations in a Deregulated Market



## ***2. Power Transmission and Distribution***

The power generated by the wind farm will be placed on the grid and delivered to the power user. By using renewable energy through Windfrastructure, the power user increases the sustainability of its operations and creates a traceable pathway to its electricity source.

# Windfrastructure Operations in a Deregulated Market



## **3. Payment to Wind Farm**

Through Windfrastructure, the power user makes a long term commitment (e.g., ten years) to purchase renewable energy from the wind farm. The payment can be structured as a fixed or varied rate.

# Windfrastructure Operations in a Deregulated Market



## ***4. Financial Return to Power User***

In exchange for purchasing renewable energy through Windfrastructure at a rate more costly than fossil fuel energy, the power user will receive a financial return from the new wind farm that provides its electricity. The return ensures the financial neutrality of the power user's investment in renewable energy and can take one of two forms.

# Windfrastructure Operations in a Deregulated Market



## ***4a. Financial Return - Repayment***

The first option is for the power user to select a repayment of the premium (the renewable electricity price over the prevailing charge) paid for the wind energy plus interest. Repayments begin once the project debt has been repaid - generally around the 15th year of operation - and flow directly to the power user from the wind farm for approximately five years.

# Windfrastructure Operations in a Deregulated Market



## ***4b. Financial Return - Equity Interest***

The second option is for the power user to receive an equity interest in the project. This option will provide the power user with a nearly 50% ownership interest in the wind farm, assuming a ten year purchase plan.

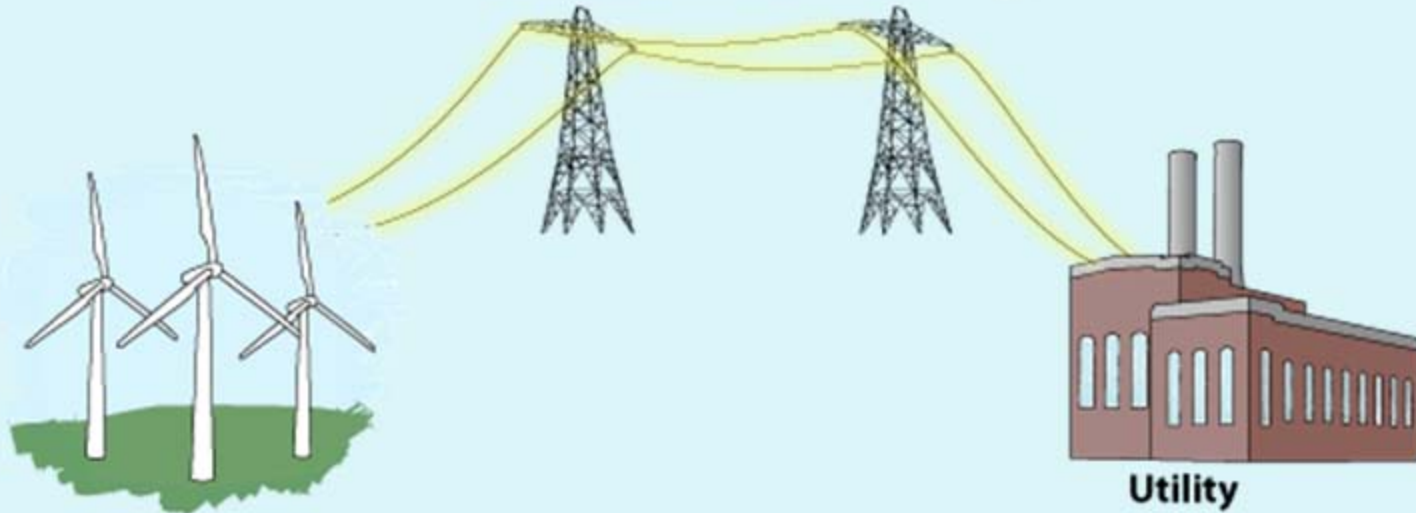
# Windfrastructure Operations in a Regulated Market



## ***1. Renewable Energy Generation***

The process begins as National Wind constructs a utility-scale community wind farm in the same region as a large power user.

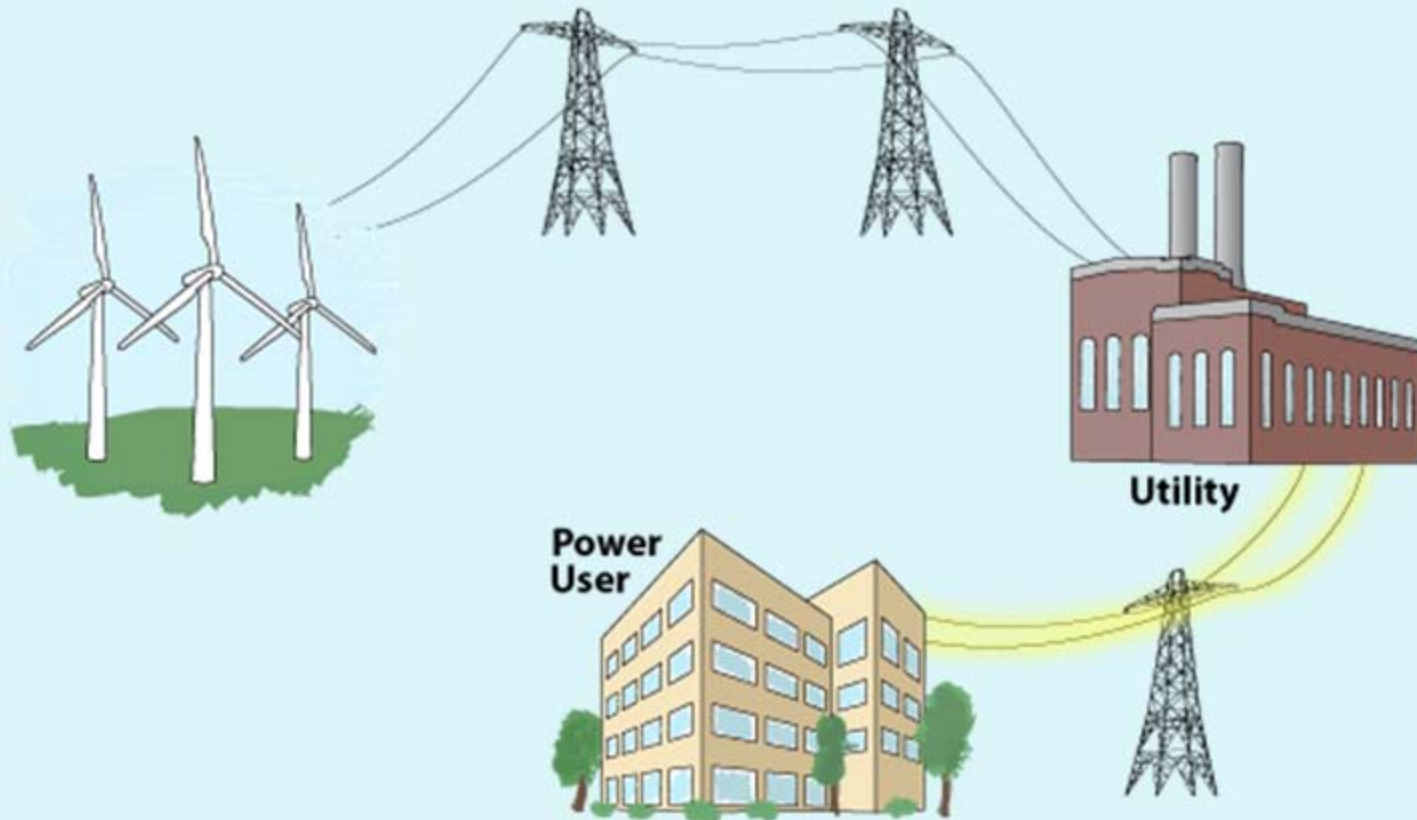
# Windfrastructure Operations in a Regulated Market



## ***2. Power Transmission***

In a regulated market, the power generated by the wind farm will be placed on the electricity grid that is owned and operated by the electric utility.

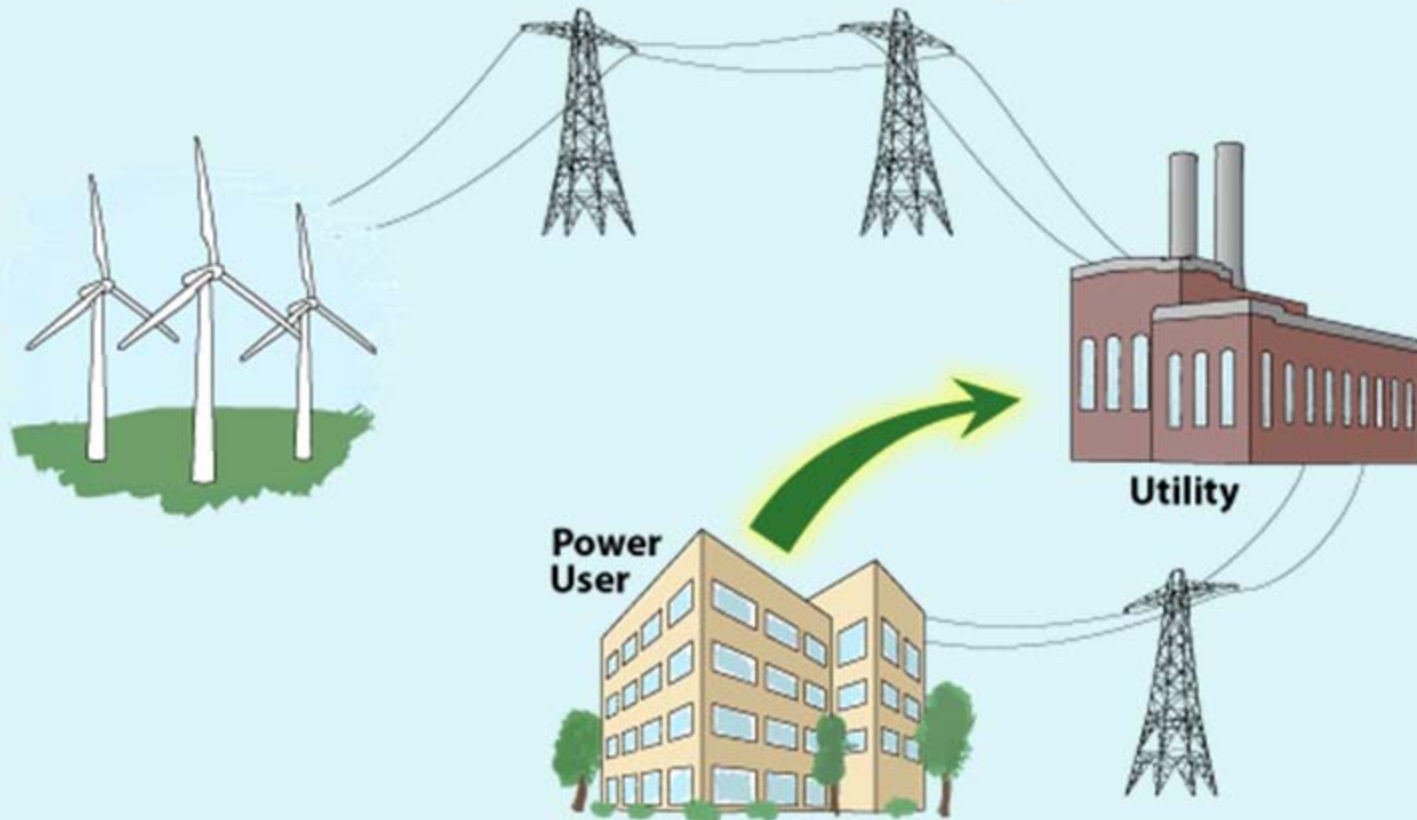
# Windfrastructure Operations in a Regulated Market



## **3. Power Distribution**

The utility then delivers the renewable power to the power user. In doing so, the power user increases the sustainability of its operations and creates a traceable pathway to its electricity source.

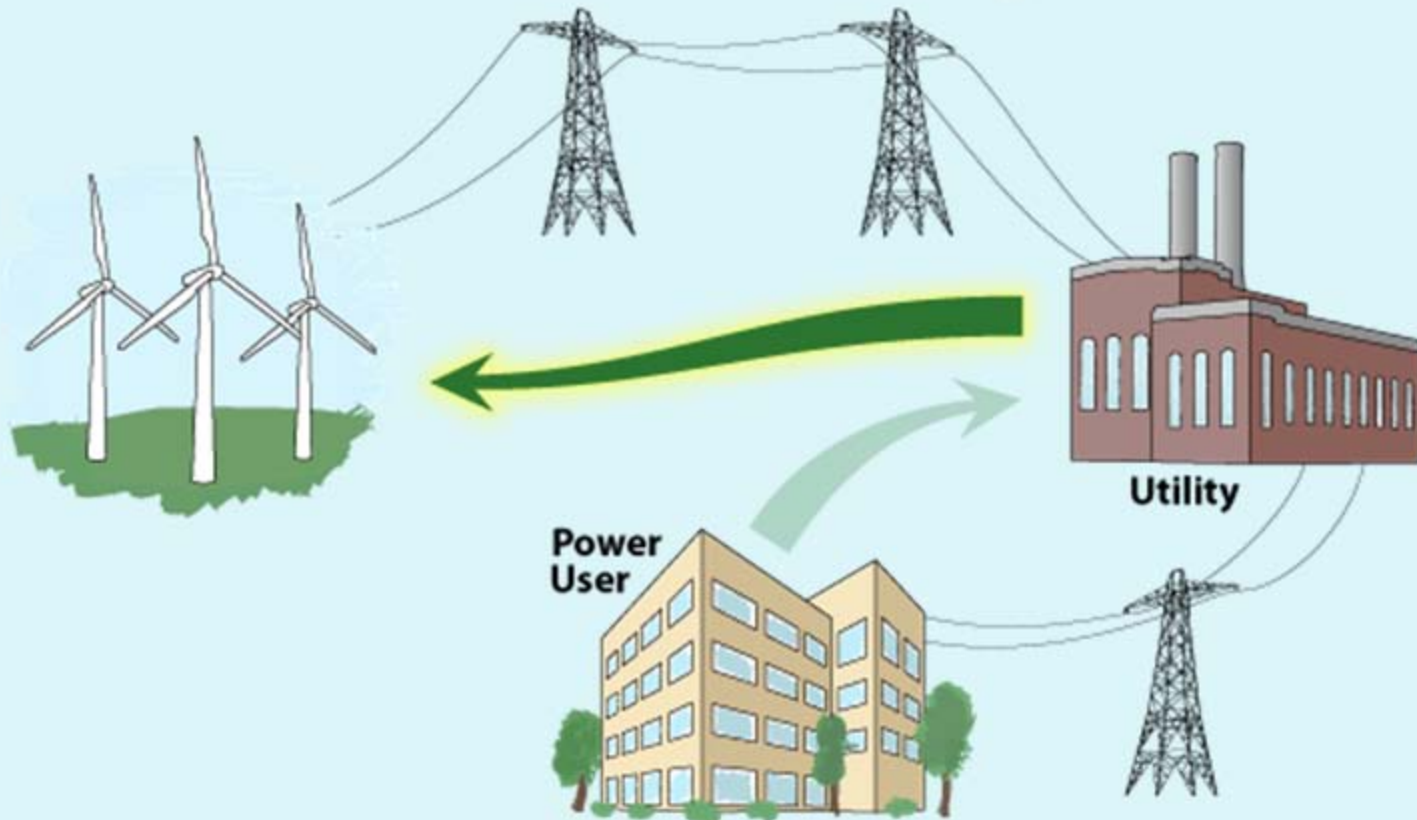
# Windfrastructure Operations in a Regulated Market



## 4. Payment to Utility

Through Windfrastructure, the power user makes a long term commitment (e.g., ten years) to purchase renewable energy. Since this is a regulated market, the payment must be administered through the local utility. The payment will be structured in accordance with the utility's green pricing program or based upon a fixed or varied rate.

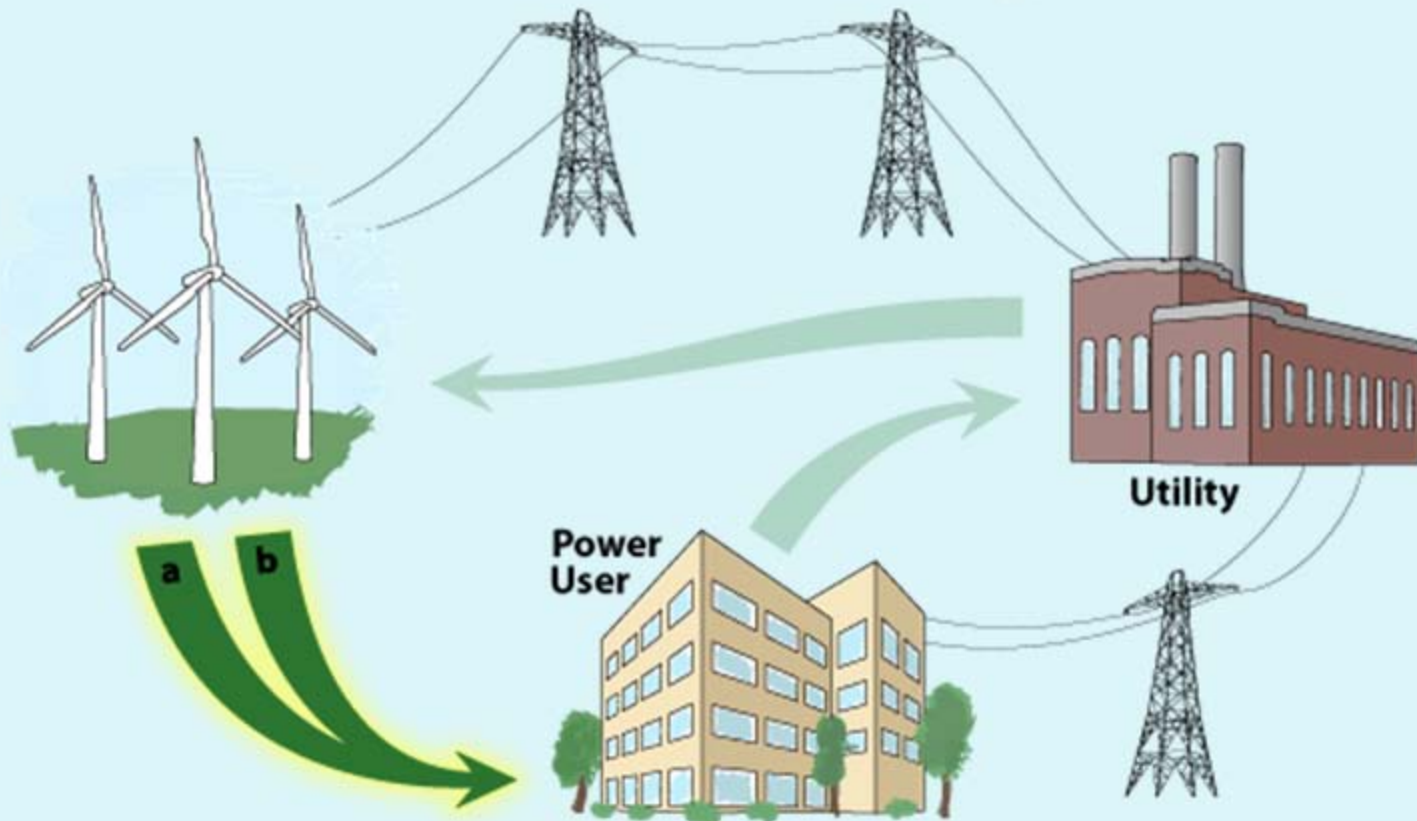
# Windfrastructure Operations in a Regulated Market



## **5. Payment to Wind Farm**

The power user's payment for renewable energy will flow through the utility to the wind farm. As in a deregulated market, the power user's purchase of wind energy will directly cause the creation of a new community wind farm that would not otherwise be built - again flexing the concept of additionality.

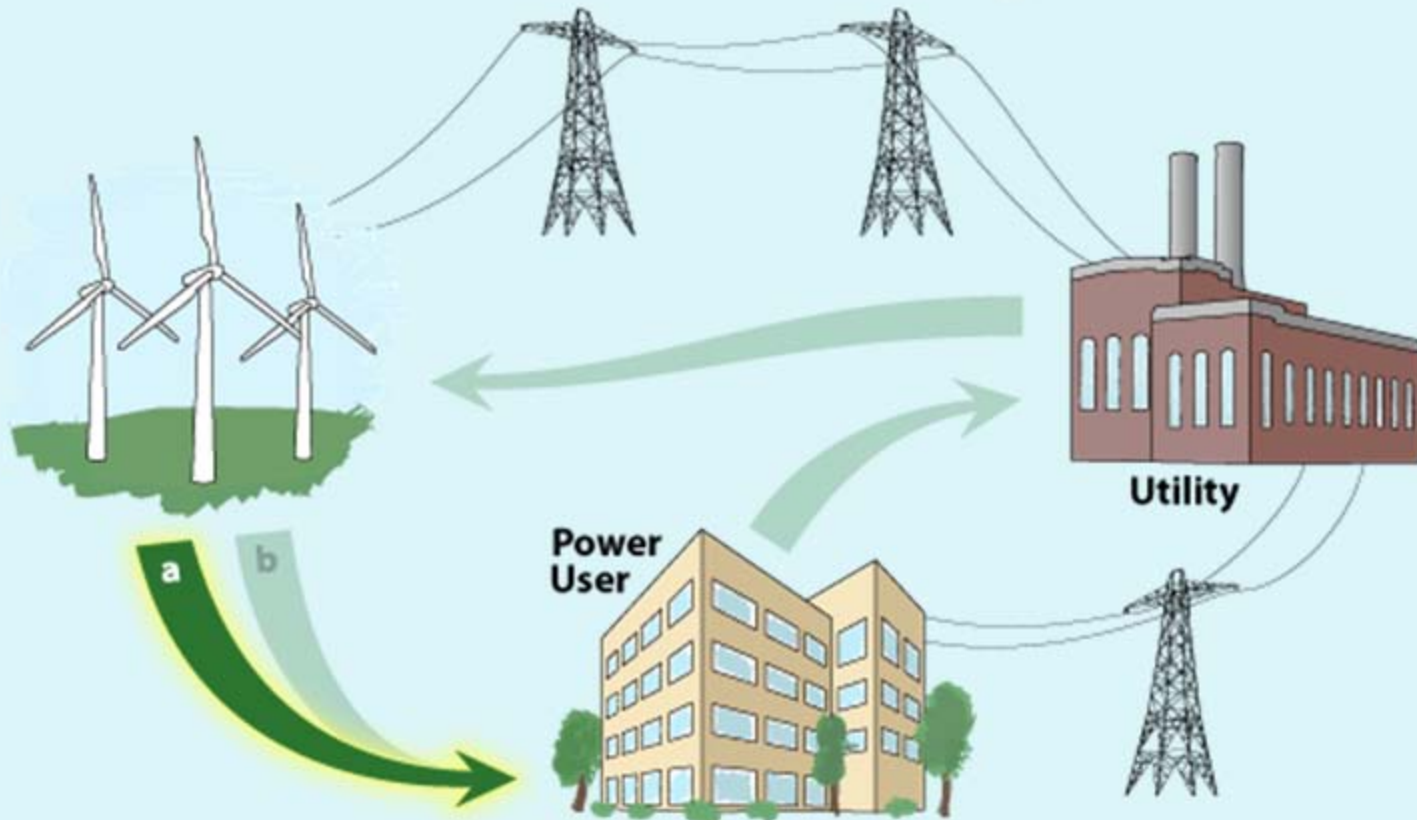
# Windfrastructure Operations in a Regulated Market



## **6. Financial Return to Power User**

The financial return through Windfrastructure ensures the financial neutrality of the power user's investment in renewable energy. This return can take the same two forms in a regulated market...

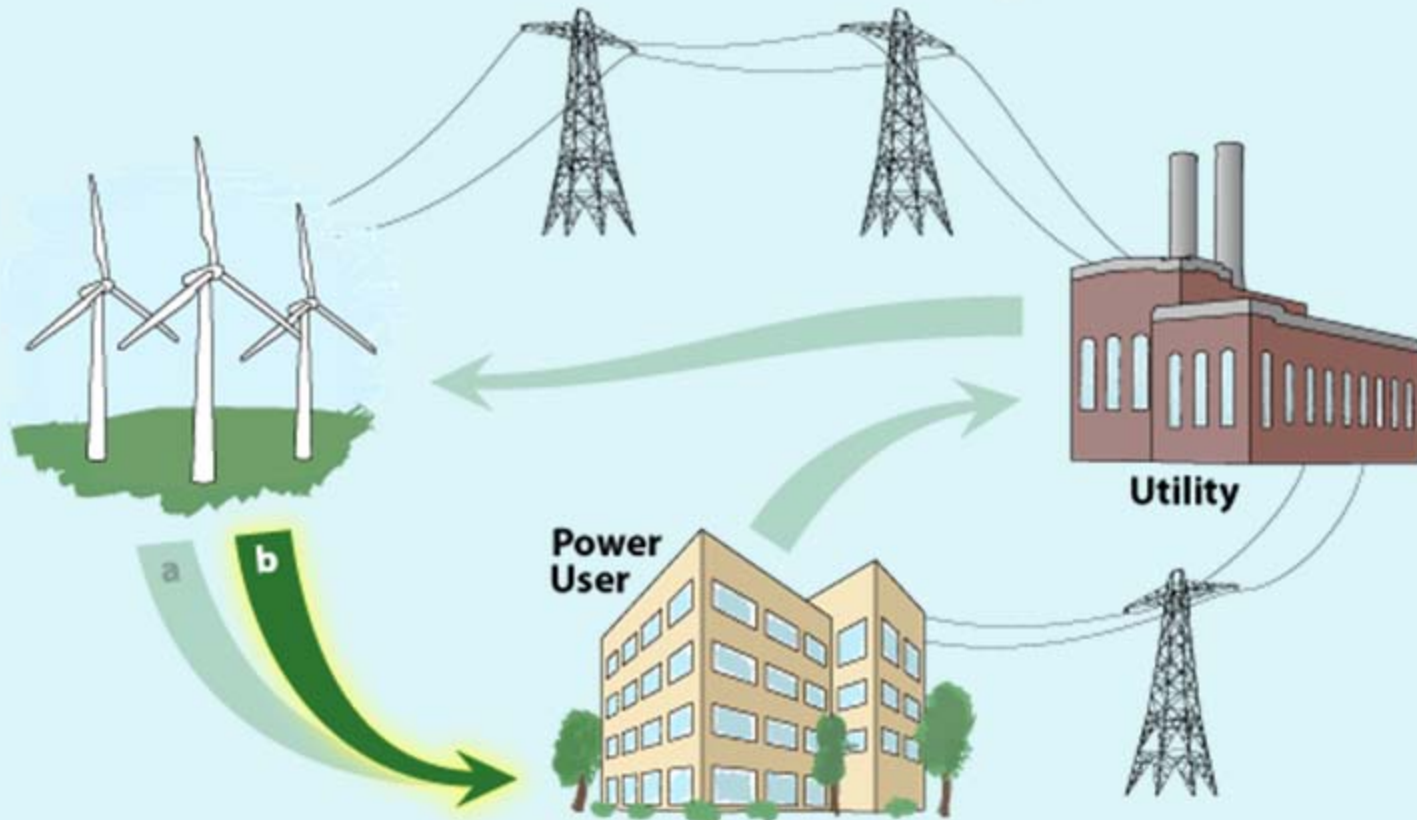
# Windfrastructure Operations in a Regulated Market



## **6a. Financial Return - Repayment**

... a repayment option that begins once the project debt has been repaid...

# Windfrastructure Operations in a Regulated Market



## **6b. Financial Return - Equity Interest**

... or an equity interest in the project that provides the power user with an ownership interest of up to 50%.

# Part 2: Ways to Participate in the Financing of a Community Wind Farm

- Investment
- Loan
- Tax Equity Investment
- Private PPA
- Windfrastructure Program

# Investment or Loan

- An attractive option for entities seeking to:
  - Increase the amount of renewable energy on the grid
  - Bolster the local economy
  - Demonstrate a commitment to sustainability while also satisfying IRR thresholds
- Downside: No impact upon entity's carbon footprint

# Private PPA

- Factors to consider:
  - Whether the state has a regulated or deregulated electricity market
  - If deregulated, whether to deliver the power on the grid and pay a wheeling fee, or to run transmission between the facility and power user and connect “behind the meter”
  - If regulated, non-utility cannot deliver electricity to power user via the grid

# Tax Equity Investment

- Investment Tax Credit (ITC)
  - 30% of hard project costs in the form of an upfront credit – no production risk
- Production Tax Credit (PTC)
  - Available for the first 10 years of operation
  - 1.5 cents per KWh of production adjusted for inflation and rounded to the nearest half cent
  - The current PTC inflator is 1.4342 making the 2010 PTC worth 2.2 cents / KWh ( $1.5 * 1.4342 = 2.1513$  or 2.2)
- Flip Model

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- Flip Model

# Flip Model Business Structure

- Allows entities with tax equity to invest in the wind project and receive the PTCs and accelerated depreciation
- After the PTC time period expires (currently 10 years), the ownership interest percentages flip in accordance to the terms of the LLC agreement
- At which point, local landowners and investors own a significant portion of the wind project



- Windfrastructure is the only program that provides power users with an economic interest in a new community wind project in exchange for buying electricity from the new project
- Participating in Windfrastructure is income statement neutral
  - The additional cost of buying renewable energy is offset by the economic interest the participant receives in the wind farm
- Economic interest in the wind farm can take one of two forms:
  - Repayment of the cost of renewable energy over brown power with interest, or
  - Ownership stake in the project



*National Wind Project, Jeffers, MN*

**NATIONALWIND™**

**WIND** **frastructure**  
a **NATIONALWIND** program

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**[www.nationalwind.com](http://www.nationalwind.com)**