# Going Beyond the DOE/NREL WFS Program

Entegrity Wind Systems, Inc.
**Boulder, Colorado**

Entegrity Wind Systems Inc.

# A few pictures….

Welch, Texas - $12,500 annual savings,
$3,000 in annual REC sales

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Shallowater, TX Intermediate School, $12,000 in annual energy savings, $3,000 in annual RECs

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Shallowater ISD HS, Texas - 3 Turbines, $45,000 in annual savings and revenue for RECs

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Crosbyton ISD, TX - 2 turbine project,
$25,000/year savings

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Sense of Scale

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10-minute wind and production data sets

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# Wind Energy for Schools, Businesses and Facilities

- Entegrity Wind Systems, Inc.
- Controlling Energy Costs - Why/How?
- Distributed Wind
- Building the Business Case
- Opportunities

Key Points

- Means for controlling energy costs
- Stable, predictable energy rates
- Increasing savings
- Low risk, high returns
- High, positive visibility

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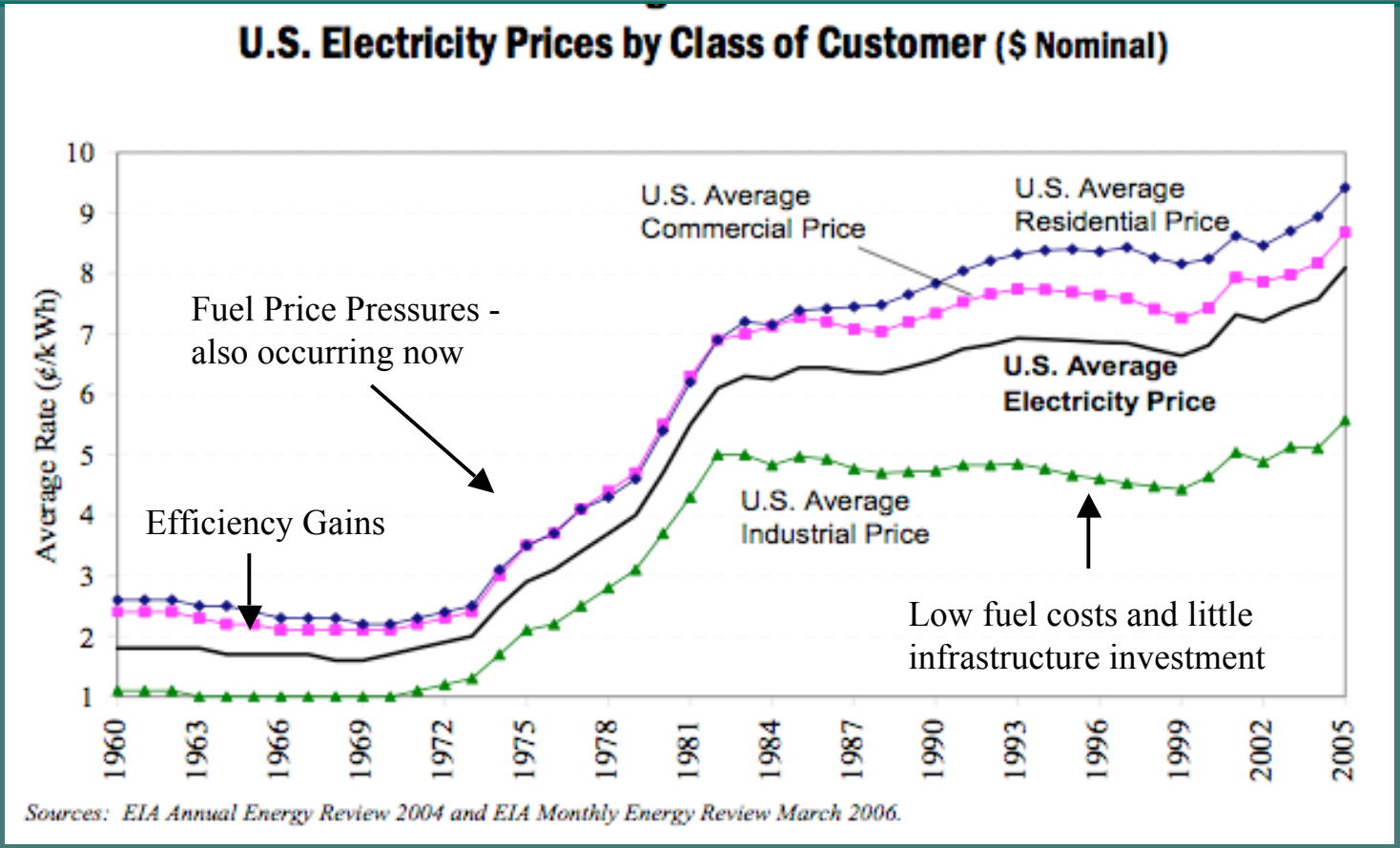
# Energy costs will rise over the long term…




Similar to 72'-84', electricity costs are expected to rise, but this time both infrastructure and fuel cost increases are the drivers.

# Why control energy costs?

## Energy and finance sectors agree electricity costs will rise.

"All the News That's Fit to Print"

The New York Times

VOL. CLVI . . No. 53,733 SUNDAY, OCTOBER 15, 2006

COMPETITIVE ERA FAILS TO SHRINK ELECTRIC BILLS

MORE INCREASES ARE SEEN

Some States Are Seeking to Return to a System of Regulated Prices

By DAVID CAY JOHNSTON

A decade after competition was introduced in their industries, long-distance phone rates had fallen by half, air fares by more than a fourth and trucking rates by a fourth. But a decade after the federal government opened the business of generating electricity to competition, the market has produced no such decline.

Instead, more rate increase requests are pending now than ever before, said Jim Owen, a spokesman for the Edison Electric Institute, the association for the investor-owned utilities that provide about 80 percent of the nation's power. The investor-owned electric utility industry published a June report entitled "Why Are Electricity Prices Increasing?"

About 40 percent of all electricity customers — those in 23 states and

POWER PLAY

*First article of a series.*

the District of Columbia where new competition was approved — mostly paid modestly lower prices over the past decade. But those savings were primarily because states, which continue to have some rate-setting power, imposed cuts, freezes and caps at the behest of consumer groups that wanted to insulate customers from any initial price swings.

Security Coun... Sanctions o...

China and Russia Bac... After the Threat of...

Democrats Have an Intensity...

**Why Are Electricity Prices Increasing?**

An Industry-Wide Perspective

Prepared by:

Gregory Basheda
Marc W. Chupka
Peter Fox-Penner
Johannes P. Pfeifenberger
Adam Schumacher

*The Brattle Group*

Prepared for:

The EDISON FOUNDATION

JUNE 2006

March 06' Lehman Brothers

"Infrastructure investments and high fuel costs spell rate shock, demand destruction and regulatory risk for traditional utilities. The projected 10 percent annual increases through the next four years could pain consumers, pressure politicians and harden regulators…"

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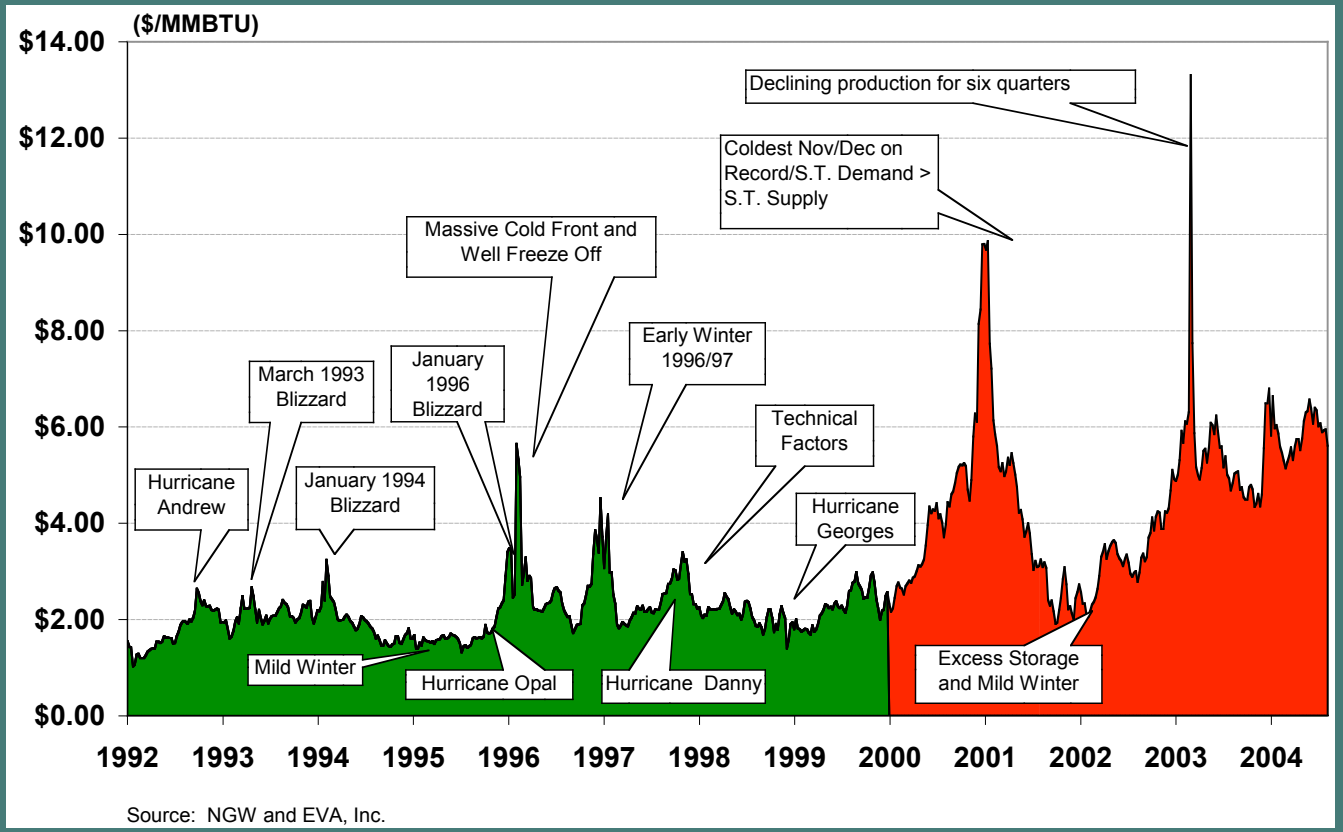
# …and in the short term.




In addition to long term increases, short term pressure will contribute to monthly and seasonal instability.

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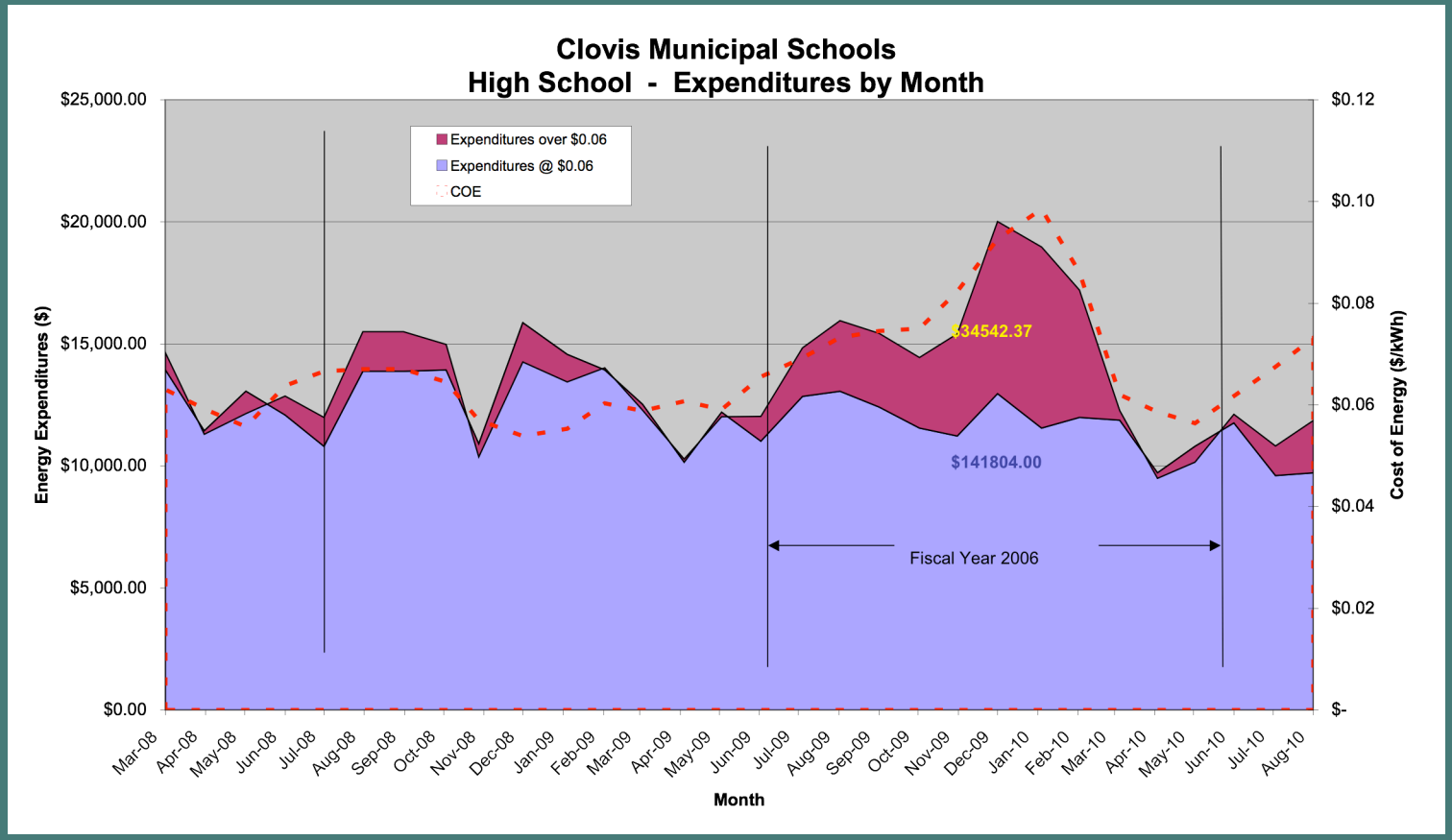
# Real data confirms industry position

## Paying utility bills is not a choice




Unexpected Expenditures

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# Tools to Control the Cost of Energy

- Efficiency measures reduce consumption and should always be considered first, but…
- Efficiency does not control the cost of energy.
- On-site renewable generation controls the cost of energy.
  - Wind, Solar and Geothermal Energy are all no-cost fuel resources.

# Industrial Wind versus Distributed Wind

## Value depends on your perspective

3 - 5 ¢/kWh
(fixed value)

Meter

7 - 16 ¢/kWh
(increasing value)


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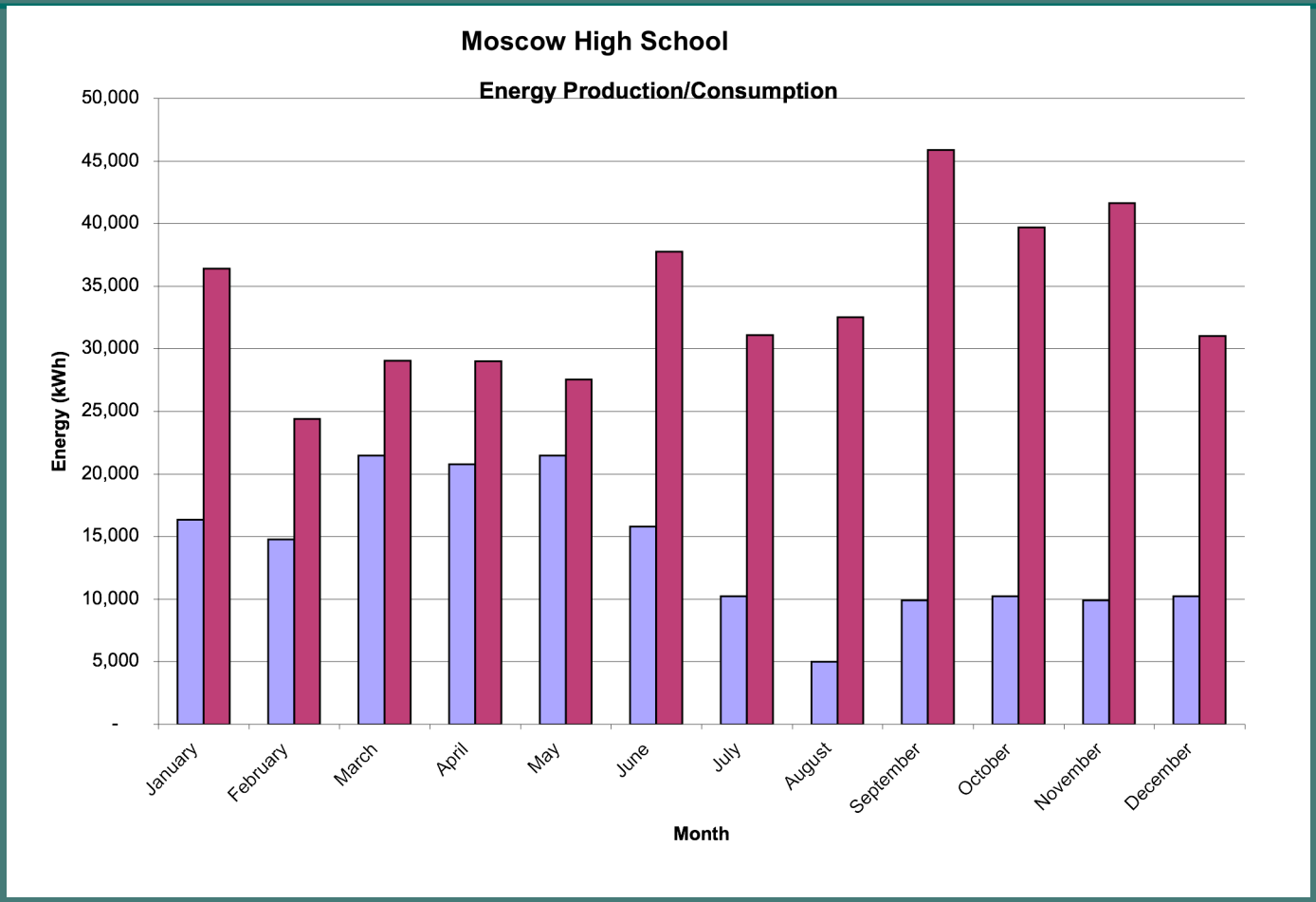
# Load Matches Production

## Magnitude and Seasonality




One (1) turbine provides about 35% of the annual energy needs

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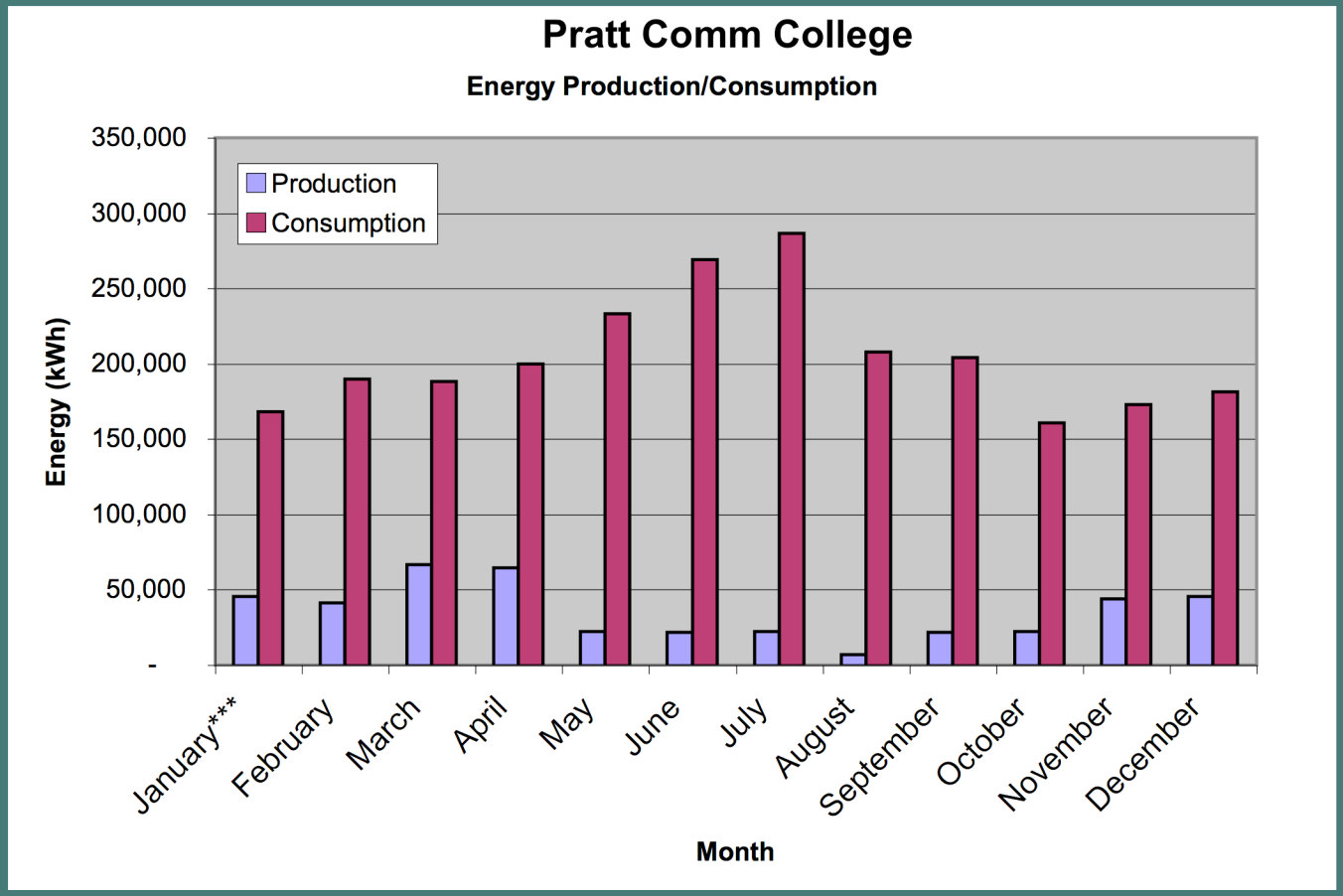
# Load Matches Production

## Pratt Community College




3 Turbines Provide ~20% of the Facility's Annual Needs, $46,000/year Savings

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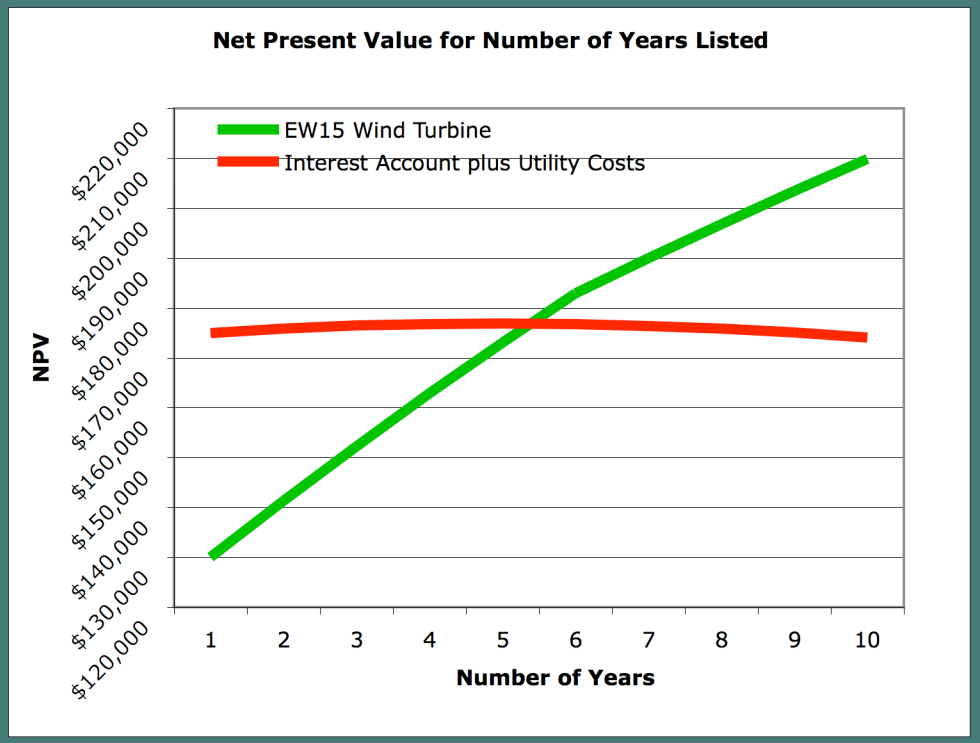
# Economics - 1 Turbine Project

- Production - 130,000 kWh/yr
- Project Cost - $175,000
- Current COE - $0.08/kWh

- $0.02/kWh Revenue from RECs
- Wind COE $0.07/kWh
- Less than 6 year time horizon to exceed Business as Usual




Energy escalating at 3% Inflation

# When to Consider Distributed Wind

- Rising energy costs narrow margins
  - Distributed Wind ensures price predictability
- Volatility makes planning/budgeting difficult
  - Distributed wind provides price stability
- Industrial Scale projects are too complex
  - Distributed Wind matches well with local loads and integrates easily into an operation and within the community
- Savings are needed now
  - Distributed wind systems from EWSI are readily available (predictable supply chain)

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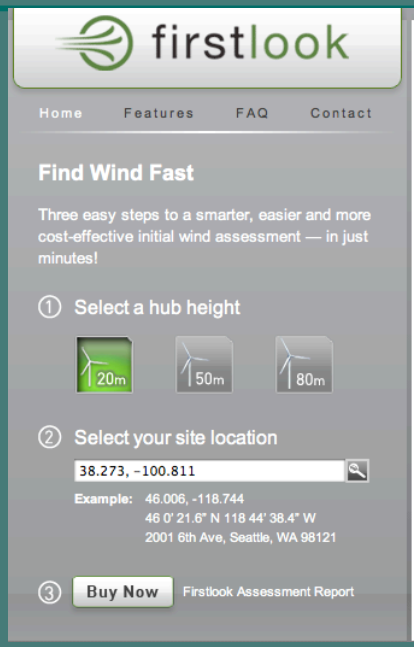
# What makes a successful project?

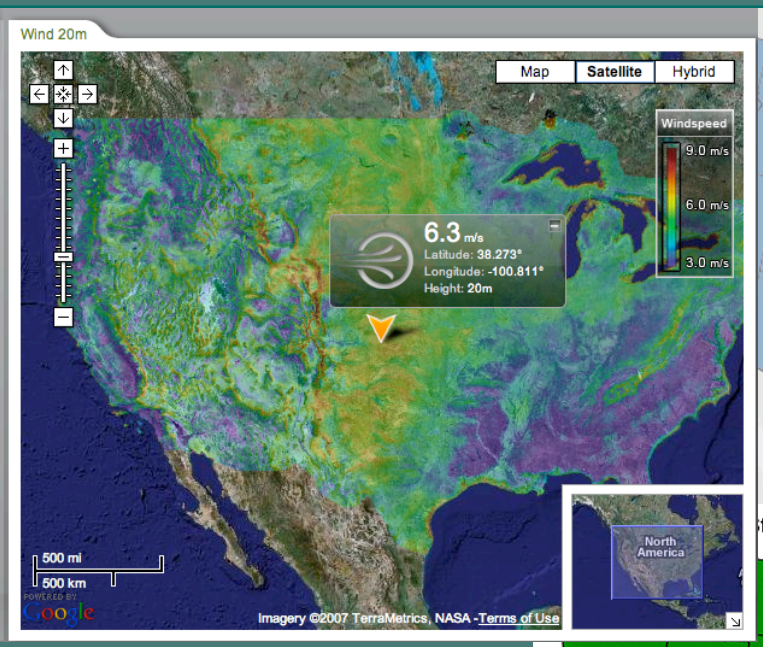
- Compelling Economics
  - Wind Resource
  - Cost of Energy
  - Sufficient Load (size and seasonality)
  - Available Financing/Finances
  - Green Energy Markets*
  - Policy*
- Appropriate Site
- Cooperative Utilities
- Corporate, Institutional, Community Values

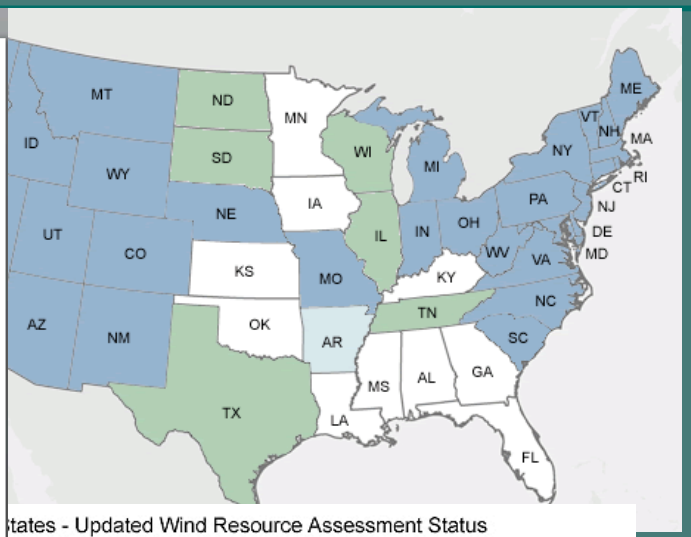
*Helpful, but not critical

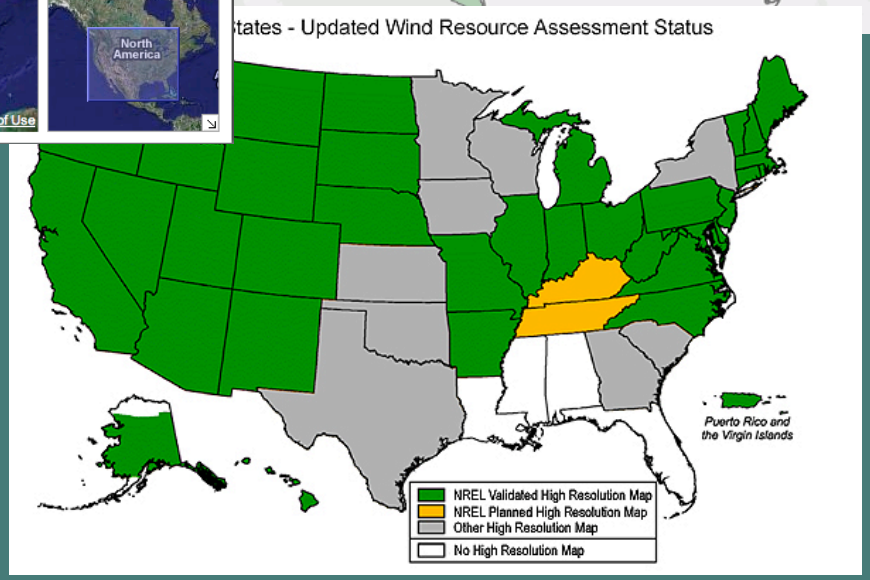
# Wind Resource

## On-site monitoring generally not warranted




EWSI engineers use DOE and AWS wind maps, Firstlook and information obtained from site visits to assess wind resource for each location.

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# Available Space…



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# EW15 Wind Turbine

## An effective tool for controlling energy costs

- 13-year production/operating history
- US and World Wide Installations

- Key Specifications
  - 50kW, 100’ Tower, 50’ rotor
  - 3 Phase Induction motor
  - 9 mph cut-in, 50 mph cut-out (avg.)
  - Lattice or Monopole Configuration

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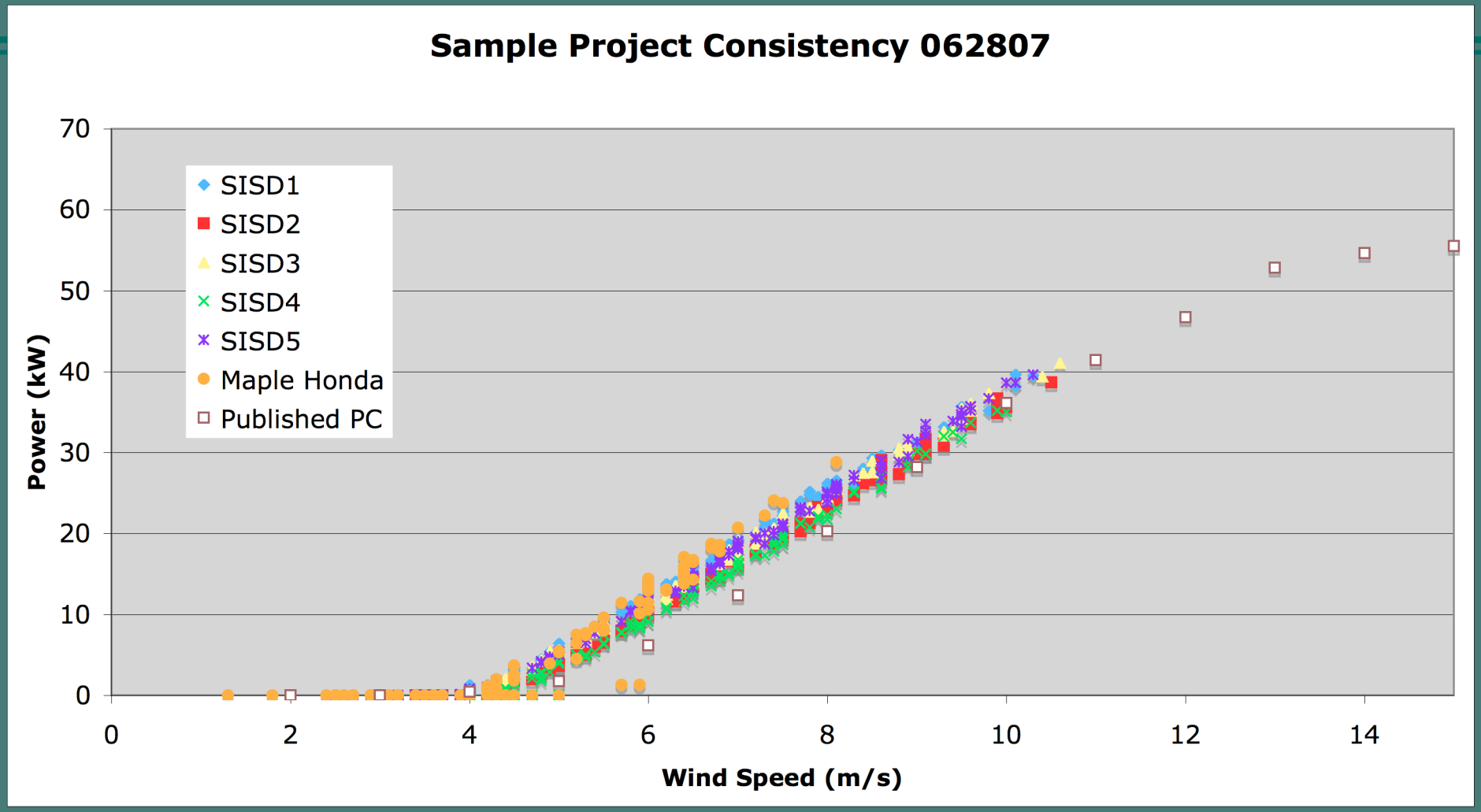
Sample Project Consistency 062807
Power (kW)
70
60
50
40
30
20
10
0
SISD1
SISD2
SISD3
SISD4
SISD5
Maple Honda
Published PC
0
2
4
6
8
10
12
14
Wind Speed (m/s)

# EW15 Turbine
## System, Cost and Support

- EW15 Wind Turbine
  - 100’ tower
  - Complete System
  - Remote Monitoring/Control
- All new installations include
  - 5-year Warranty
  - 5-year Maintenance
  - 5-year Production Guarantee*

*Based on Wind Resource

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# Entegrity Wind Systems, Inc. (EWSI)

- US Headquarters in Boulder, CO
- Engineering & Manufacturing in Canada
- 22 Employees
- Wind Energy Experts

- Single Product: EW15 Wind Turbine

- Vertically Integrated Company
  - Design & Manufacture
  - Project Development
  - Long-term O&M

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# Distributed Wind

## A Smart Choice for Controlling Energy Costs

- Distributed Wind has High Value
  - Stable, Predictable Energy Costs
  - Readily Available
  - Proven, Reliable Technology
  - Attractive Rate of Return
  - Leverages Capital Monies to yield Operational Savings
- Indirect (Direct) Benefits
  - Environmental Leadership
  - Education Value
  - Favorable Visibility
  - Innovative Image


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