

# Infinite Wind Energy, LLC.

Presented by Sam Y. Bae,

R&D Engineer

# Infinite Wind Energy

- Our Mission

is to supply, 1 to 100 kilo-Watt, Small Wind Turbine (SWT) generators, to the demand of the US market of 1700 MW in the next 5 years, equivalent to ~\$3 Billion market\*

- Our Need

is \$6 M to go from manufacturing-model to production.

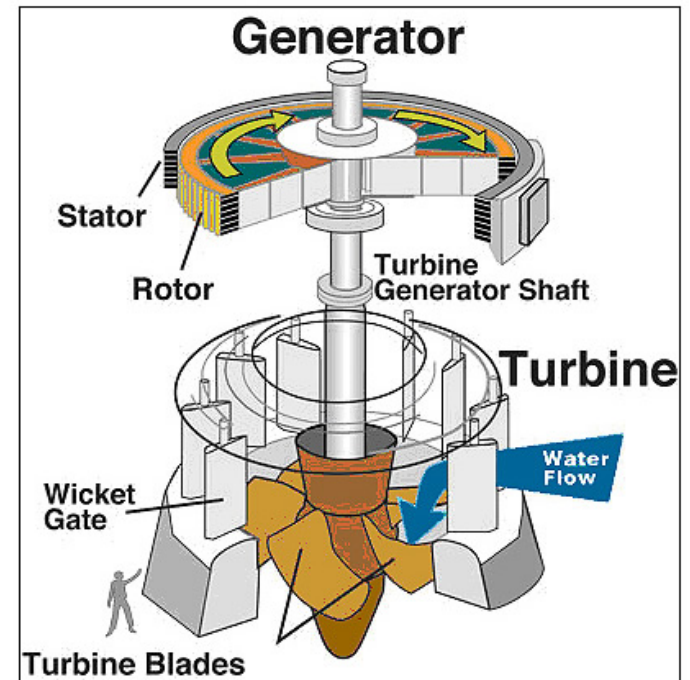
\* A Small Wind Turbine costs \$2 to \$3 per watt capacity

# Infinite Wind Energy

- Opportunity – Timing
  - 40 to 50% annual growth expected in next 10 years
    - Historically, 40-55% annual growth of photovoltaic energy market was observed since the Investment Tax Credit was enacted in 2005.
    - Oct. 2008, the 8-year Investment Tax Credit for SWT was enacted.
    - May 2006, feed-in tariffs/ Buy back rate for SWT was enacted by 5 states.
  - Department of Energy plans to meet 20% of the US electricity demand with wind energy by 2030
    - Guaranteeing the market existence and growth

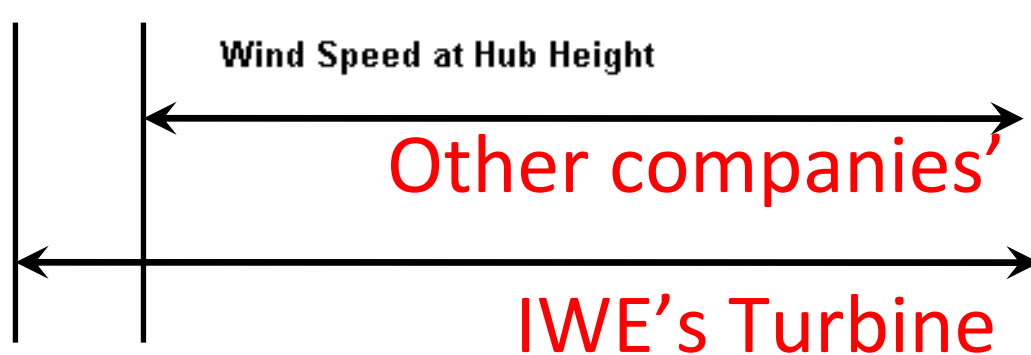
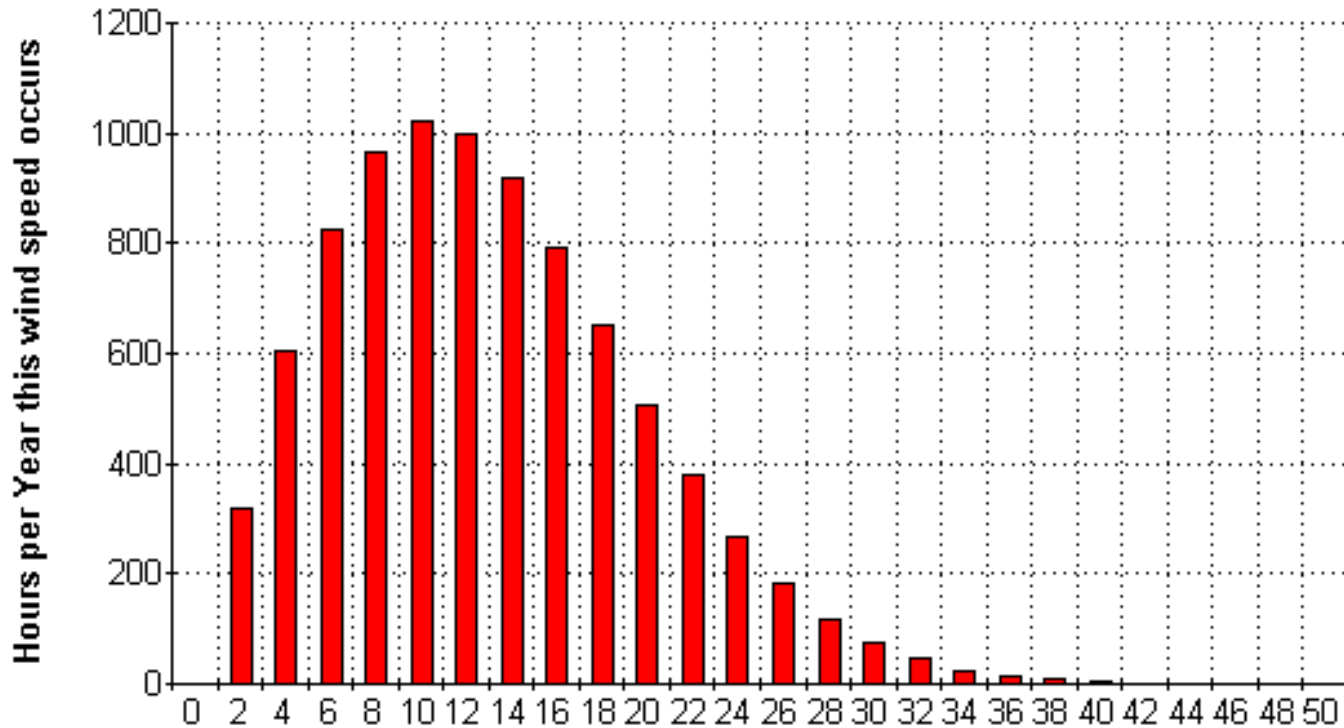
# Infinite Wind Energy

- Opportunity – Innovation
  - IWE's novel concept in electricity-generator
  - Background of current rotor designs
    - Not Symmetric
      - Structural stress created from unequal weight distribution
      - Quick wearing in bearings and other parts
      - 12 mph. minimum wind speed required
        - » Most urban areas have only low speed winds available



# WIND SPEED DISTRIBUTION

typical for 13 mph average





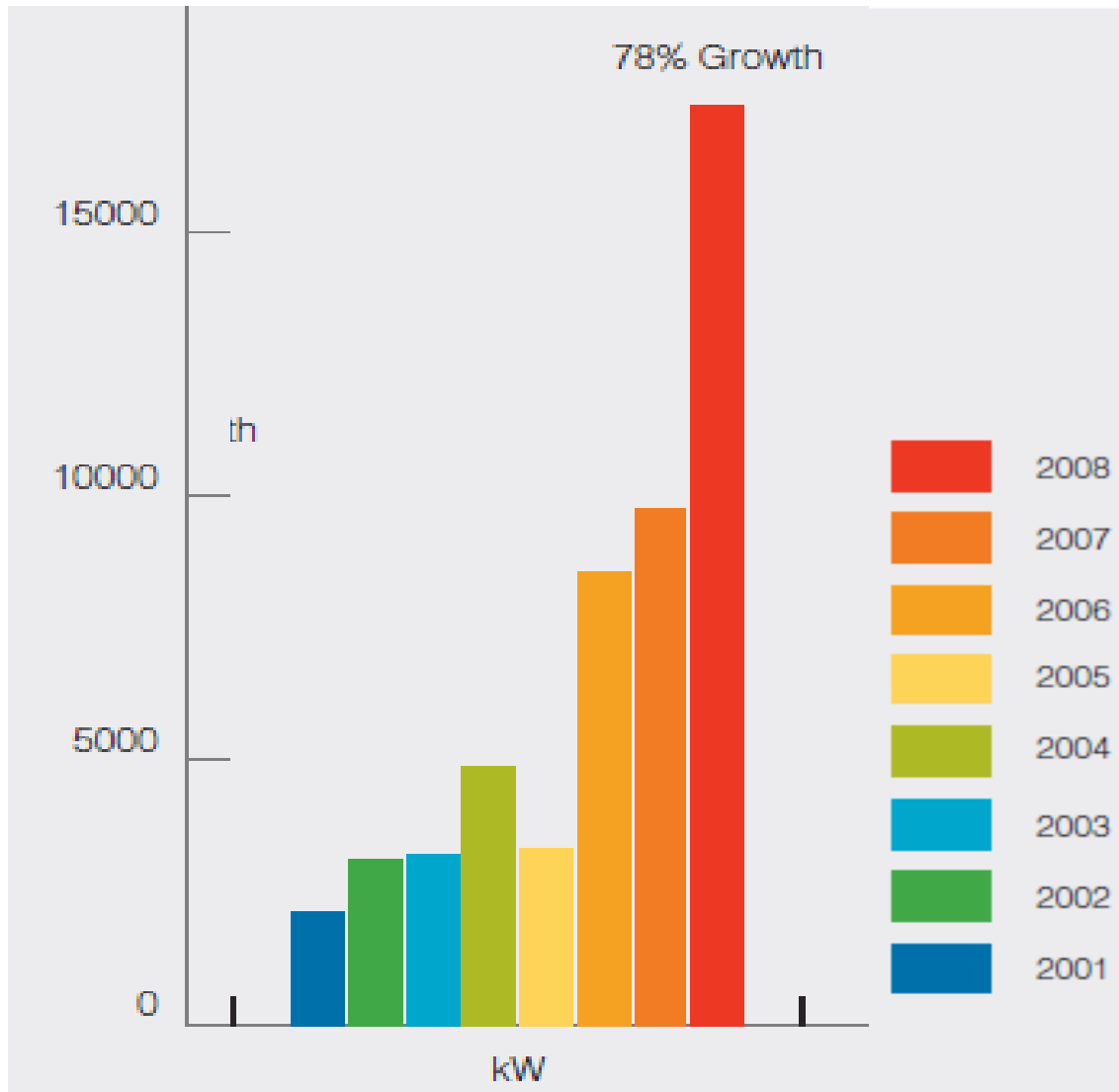
## Infinite Wind Energy's Innovation

The energy output of the generator has increased by 40% by the Infinite Wind Energy's patented technology, two counter-rotating rotors.

# Infinite Wind Energy

- **Innovations in the IWE's counter-rotating turbines**
  - Symmetric
    - Even weight distribution results in minimum structural stress
  - Requiring half the speed of the other SWT
    - Increased Power output and Increased energy output
  - Spin-top arrangement
    - The faster the rotation, the more stable the turbine becomes
  - No brush contact
    - Zero maintenance over 10 years
      - Customer's return of investment ensured
  - Reduced cost
    - The same amount of materials for a doubled power output

# Growth of small wind turbine market in US



Reference.

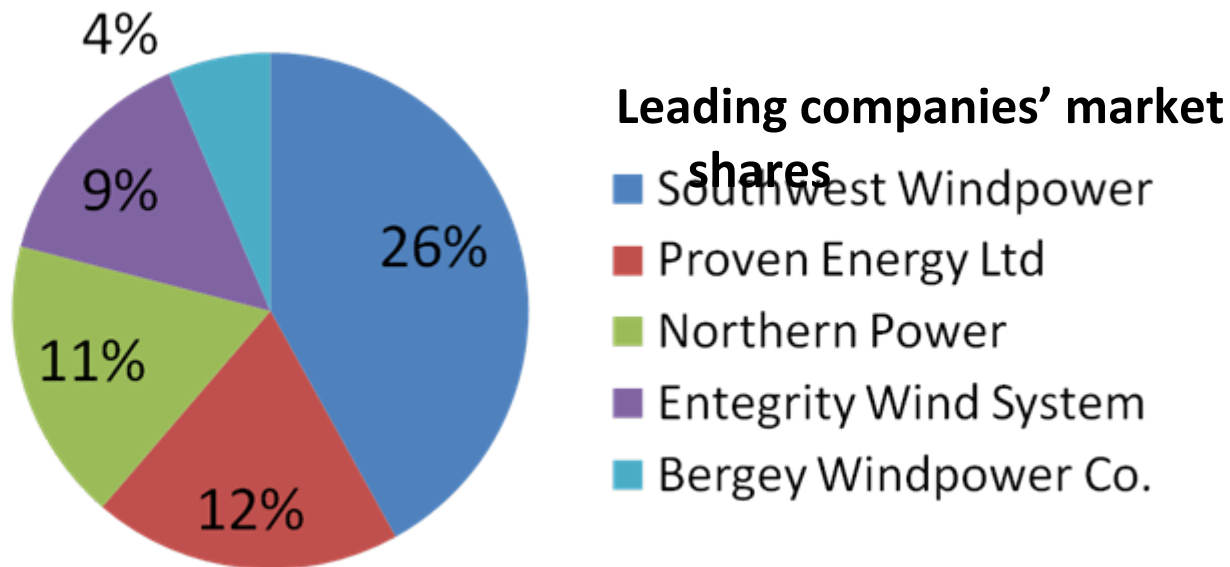
*AWEA Small Wind Turbine Global Market Study, Year ending 2008*<sup>8</sup>

# Infinite Wind Energy

- Market projection [*based on 2009 AWEA report*]
  - History
    - In 2008, US sales grew to \$77 M (17.3 MW), 78% growth over 2007
    - In 2008, global sales grew to \$156 M, 53% growth over 2007
  - Projection
    - “The industry projects 30-fold growth within 5 years for a cumulative US install capacity of 1,700 MW,” ~ 54% annual growth.
  - In terms of money
    - US market alone will have a \$3 Billion market in next 5 years.

# Infinite Wind Energy

- Market shares [*Based on 2009 AWEA report*]
  - 219 companies manufacture or plan to SWT in the world.
  - Of these, 74+ US Companies; ~36 US begun sales



- IWE expects to grow its market share from 1% in 2009 to 10.5% in 2013

# Infinite Wind Energy

## Financial projection (Millions)

Year	2009	2010	2011	2012	2013
<b>IWE's US Market share</b>	1.0%	1.8%	3.2%	5.8%	10.5%
<b>Total revenues</b>	\$1.13	\$4.00	\$14.14	\$49.97	\$176.59
<b>Gross Margin</b>	\$0.75	\$2.18	\$8.96	\$26.85	\$134.50
<b>Total Costs &amp; Expenses</b>	\$1.36	\$4.38	\$6.99	\$13.97	\$26.88
<b>Total operating income</b>	\$(0.61)	\$(2.20)	\$1.97	\$20.48	\$118.26
<b>Provision for Income Taxes</b>	-	-	\$(0.06)	\$(7.80)	\$(55.10)
<b>Net Income (loss)</b>	\$(0.61)	\$(2.20)	\$1.91	\$12.68	\$63.15

# Infinite Wind Energy

- Profits generated from
  1. Technology license fees
    - Sales of generators other companies, e.g. blade manufacturing companies
  2. Contract-work for installing an array of the SWT
    - Small scale wind farms
    - Bulk revenue
  3. Sales of individual small wind turbines for a margin
    - Do-it-yourself units

(IWE will provide financial assistance in reducing upfront cost by directing government incentives.)

# Infinite Wind Energy

- Success factors
  - Management team
    - Dedicated and passionate individuals
    - Lifetime friendship among partners
    - Competent and hands-dirtied engineers
  - Working prototype readily copied for production
  - Experienced advisory board
    - Successful and well-connected entrepreneurs

# Infinite Wind Energy

- People
  - Philip Son
    - The founder, the financial manager
  - Kyu Kim
    - The inventor, an electrical and mechanical engineer
  - Sam Bae
    - R&D engineer
  - Christy Enad, and Youngbae Moon
    - Advisory board members