STARWIND

StarWind, A dual wind spiral turbine for converting wind to useful electrical power.

The StarWind Story

Since 2000, Christopher Castro, CEO of Star Power Solar, a renewable energy company, has been getting calls from customers living near the shore of Long Island, NY, interested in installing wind turbines on their homes. After a detailed search we discovered there was nothing available on the market that could be directly installed a customer's roof. We recognized an opportunity and came up with a design inspired by biomimicry.

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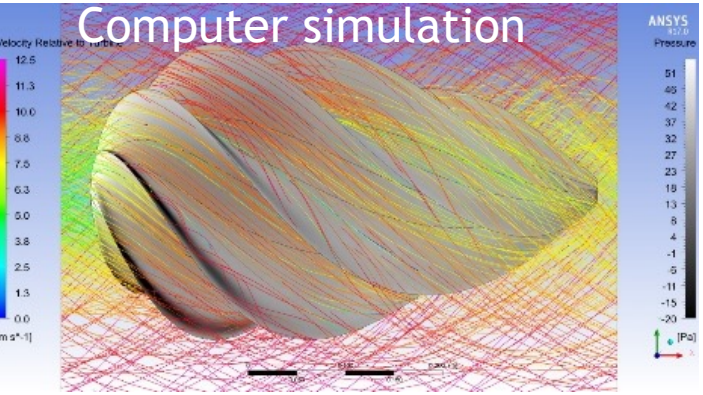
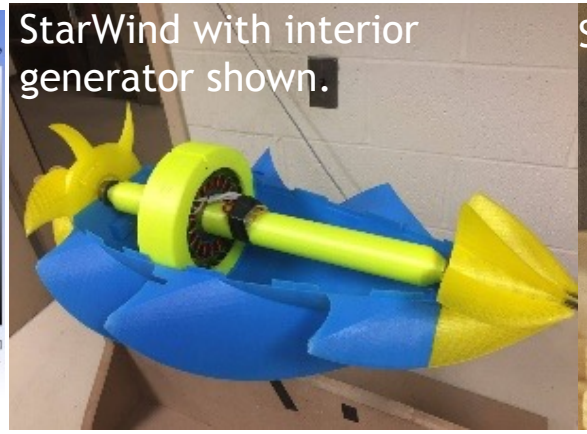
Value Proposition

- Reduce a customer's electrical bill 50% - 90% at $/kW comparable to solar, with a 3-5 year payback
- Can be installed on roofs with existing reinforced methods similar to antennae installations
- Greater energy availability
- Low maintenance
- Low vibration
- No Noise
- Aesthetics/Curb appeal
- Provide more energy independence at a reasonable price

StarWind's Technology





- Designed using biomimicry by copying the shape of animals that move efficiently through fluid mediums such as air/water, namely birds and fish.
- Internal gearless generator
- Antenna-like mounting
- Simple design, no complex parts
- Patent Pending
- 1 year $150K grant from PowerBridgeNY.
- 16.5W and 0.37 Cp at 22 mph in wind tunnel testing for 20 inch prototype
- TRL 4-5

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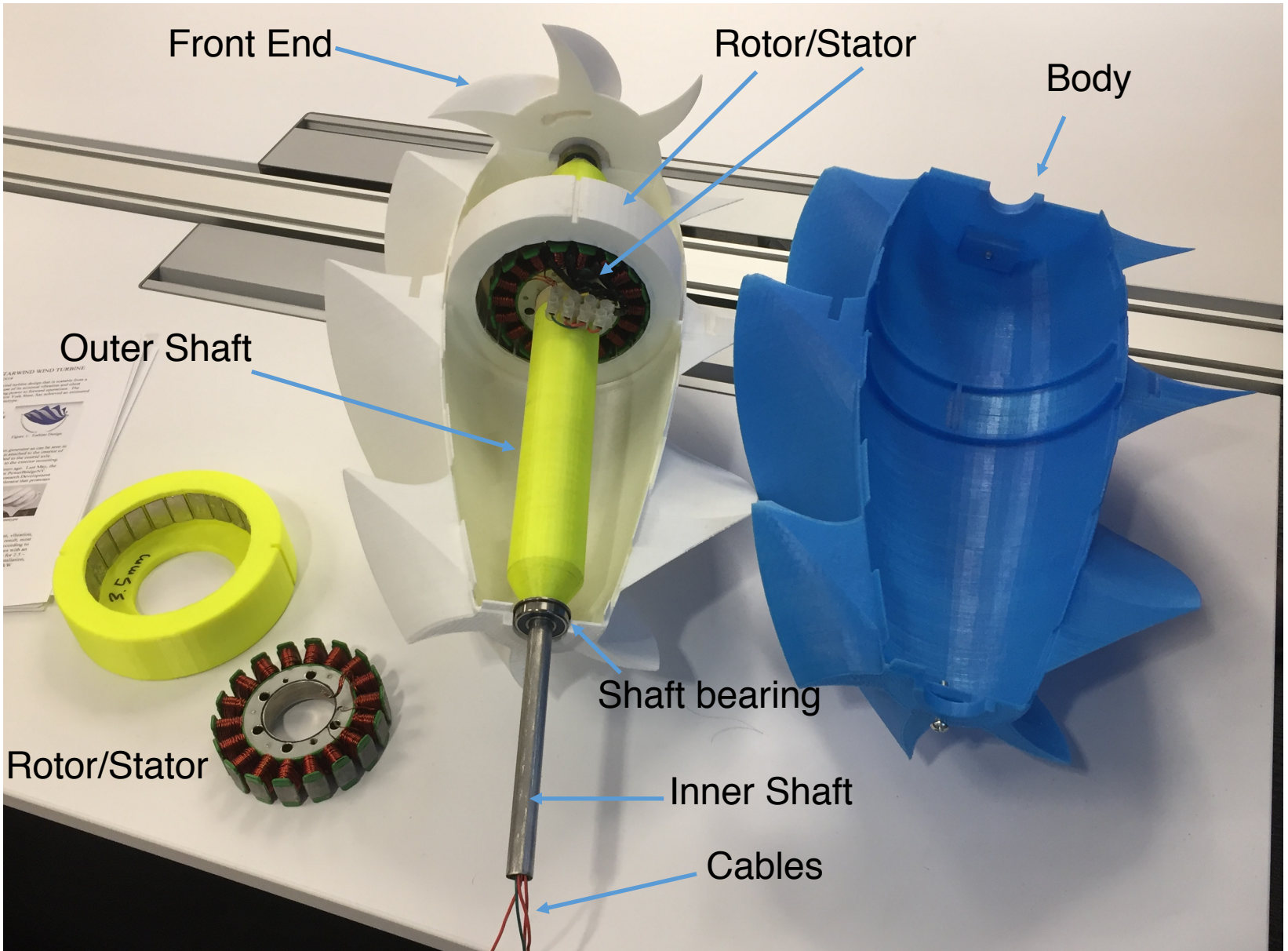
StarWind Components



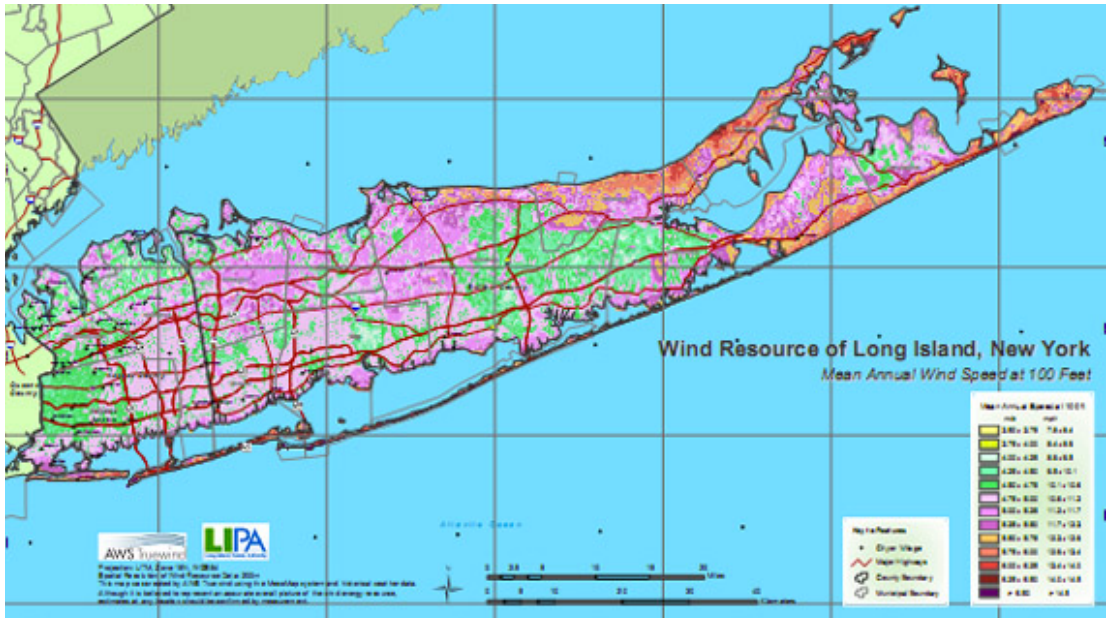
Customer Segment

Initial market:

- L.I. Homes and Small Business owners with a good wind resource
- Buildings in NYC

Additional markets:

- Commercial/Industrial Customers
- Cellphone Towers
- Agriculture
- Military
- Municipalities
- Boaters
- RV/Campers
- Hydro power customers



Traditional Turbine Problems

- Roof mounted turbines are not available on the market.
- Conventional horizontal axis wind turbines require a tall tower
- Town codes require large lot sizes for installation.
- Low capacity factors

As a result less than 5% of the total installations for wind are for small turbines <20kW according to the National Renewable Energy Lab (NREL).

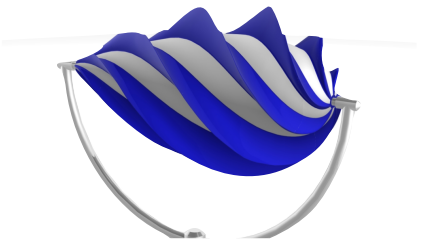
Competitive Landscape

HAWT

Darius

VAWT

Savonius



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Industry dominated by the large utility scale turbines. GE and Siemens are among the largest manufactures of these turbines.

The residential market is very small with only a handful of US companies:

- Bergey (USA)
- Pika Energy (USA)
- Urban Green Energy (USA)
- XZERES (USA)

Issues:

1. Quality of currently available products
2. Poor efficiencies
3. Unsightliness
4. Vibration and noise
5. large installation footprint
6. Costly BOS

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Revenue Streams

- Pricing – comparable to solar, $4,000 /kW
- Partnership with larger entities
- Financing deals using solar format
- Alternative concept is to package with energy storage (battery)

Pilot Installation

5 ft unit to be installed on two state parks, and one commercial building in spring/summer 2021.

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Cost Structure

STARWIND COSTS	
Materials	
Blades/Body - Fiberglass	$75
Resin	$45
Generator	$120
Pole/Roof hardware	$150
Paint	$8
Balance of system	$1,000
TOTAL UNIT COST	$1,398
Distribution	$210
Overhead	**$500**
Total Cost	**$2,108**

Low material costs enable pricing comparable to solar

STARWIND

StarWind is a dual-purpose wind/hydro turbine. Its teardrop shaped spiral bladed body addresses the concerns of customers and resolves issues plaguing conventional wind turbines.

It easily allows rooftop installation. The full size 5-foot unit will generate 1 kW of output power from its enclosed axial-flux direct drive generator.

StarWind just may be the game changer in wind turbine technology