



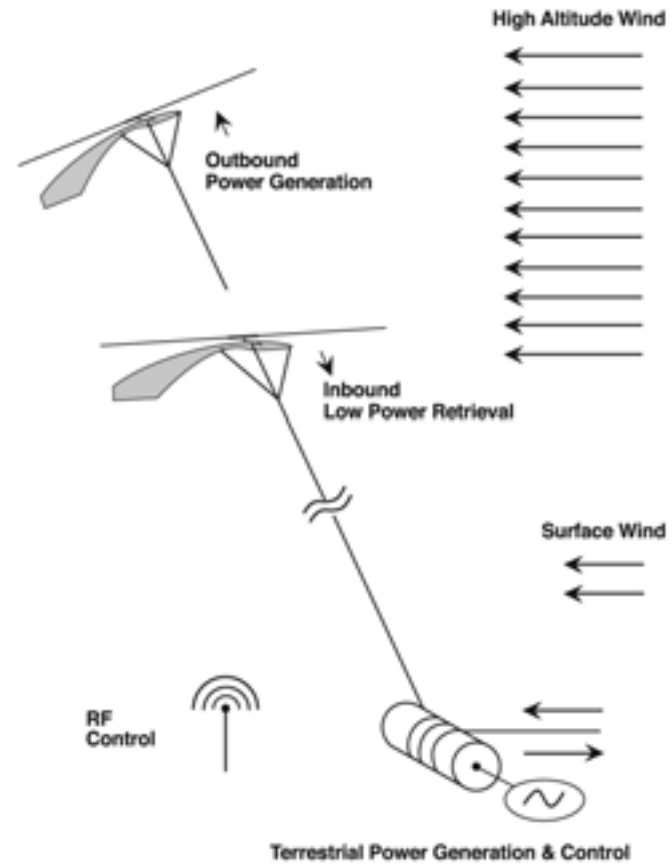
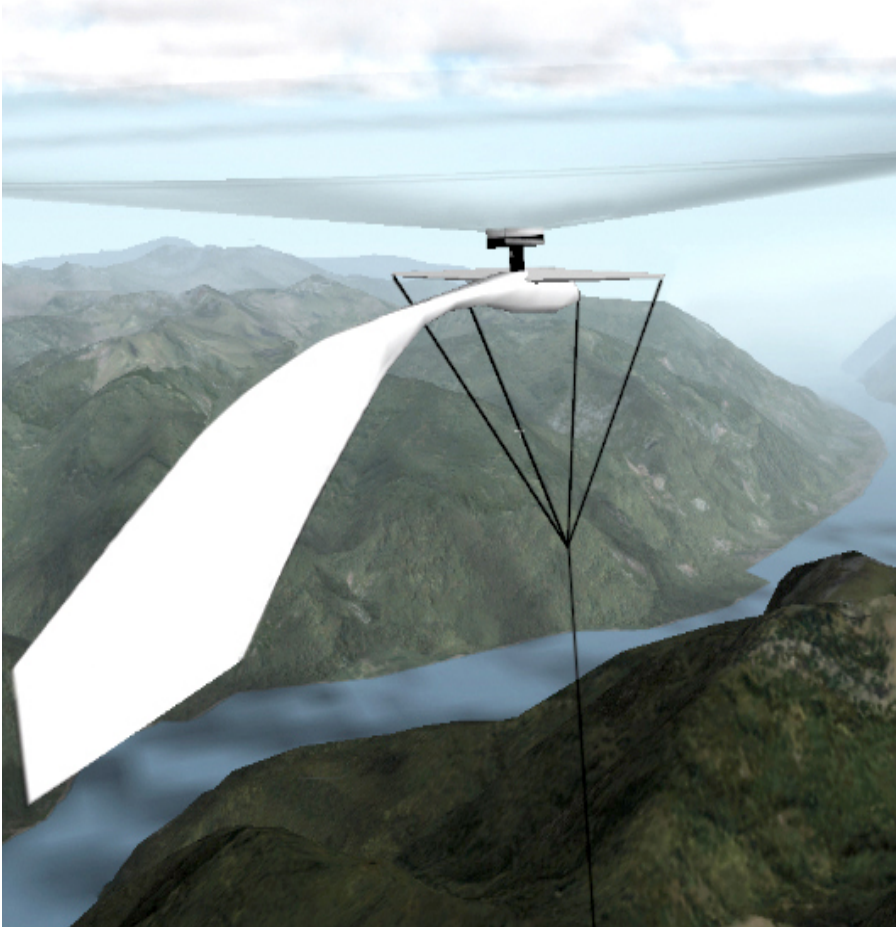
SkyMill Energy, Inc.

A Practical Approach to Tap the
Power of High-Altitude Wind

Airborne Wind Energy Conference
September 29, 2010

SkyMill Energy, Inc
(360) 378-6186.

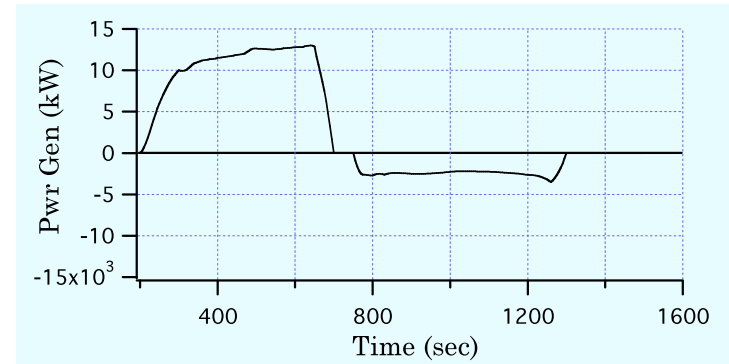
The SkyMill System



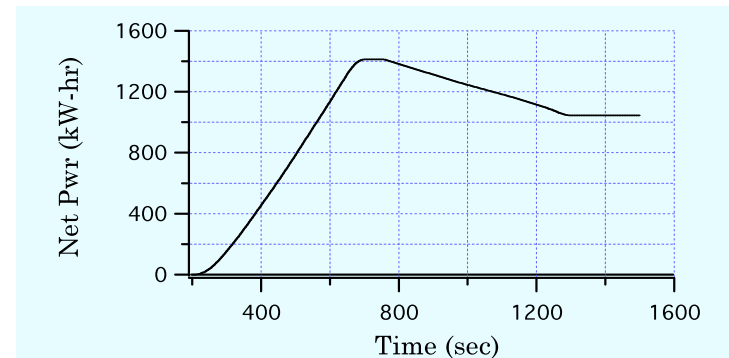
SkyMill's Tethered Flight Simulation



900 KWh x 3 cycles/hr = 2.7 MW



Instantaneous power (one cycle)



Net power (one cycle)



Why SkyMill Matters

SkyMill offers six practical solutions to high-altitude wind energy's major technical challenges

Problem 1: *Getting to the Highest Energy Winds*



Solution: Pure Lifting Body

- Generator on the ground
- Autogyros
 - High relative wind
 - Large swept area
 - Low structural weight

Problem 2: *Launch and Recovery Under Control*



Solution: Autogyros

- **Launch** in light, strong or no wind
- **Recovery** -- in no wind (in autorotation)
-- in high wind (under control)
- From compact launch & recovery fixture
- *Both operations can be automated*

Fairey Rotodyne 1950's



0 to >200 mph

SkyMill Energy, Inc.

Problem 3: *Extreme Wind Speed Range & Turbulence*



Solution: Autogyros

- Proven performance:
10 mph to 200 mph
- Inherently tolerant of
gusts & turbulence
- Eight decades of
flight experience

Problem 4: *Power Output in Marginal Conditions*



Solution: Crosswind Maneuvering

- Significantly increases power output
- Expands geographic regions and seasons
- Autogyro advantages
 - Stored rotor energy smoothes power through turns
 - Maneuver in any direction
 - Excellent control authority

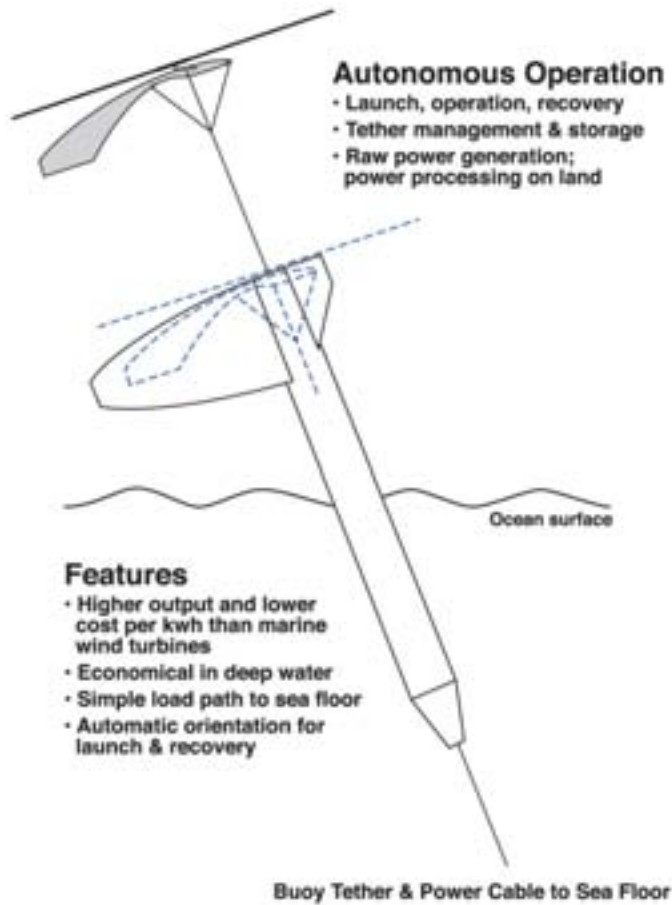
Problem 5: *Air Traffic*



Solution: Offshore Operations

- US Outer Continental Shelf (1.7 billion acres)
- Limited air traffic with strict flight control through Air Defense Identification Zone (ADIZ)
- Higher surface winds aid launch and landing

SkyMill Buoy Farms



Problem 6: US Market

Hurdles (*FAA, ITAR, Pilots, etc.*)



Solution: Concurrent Development in India or China

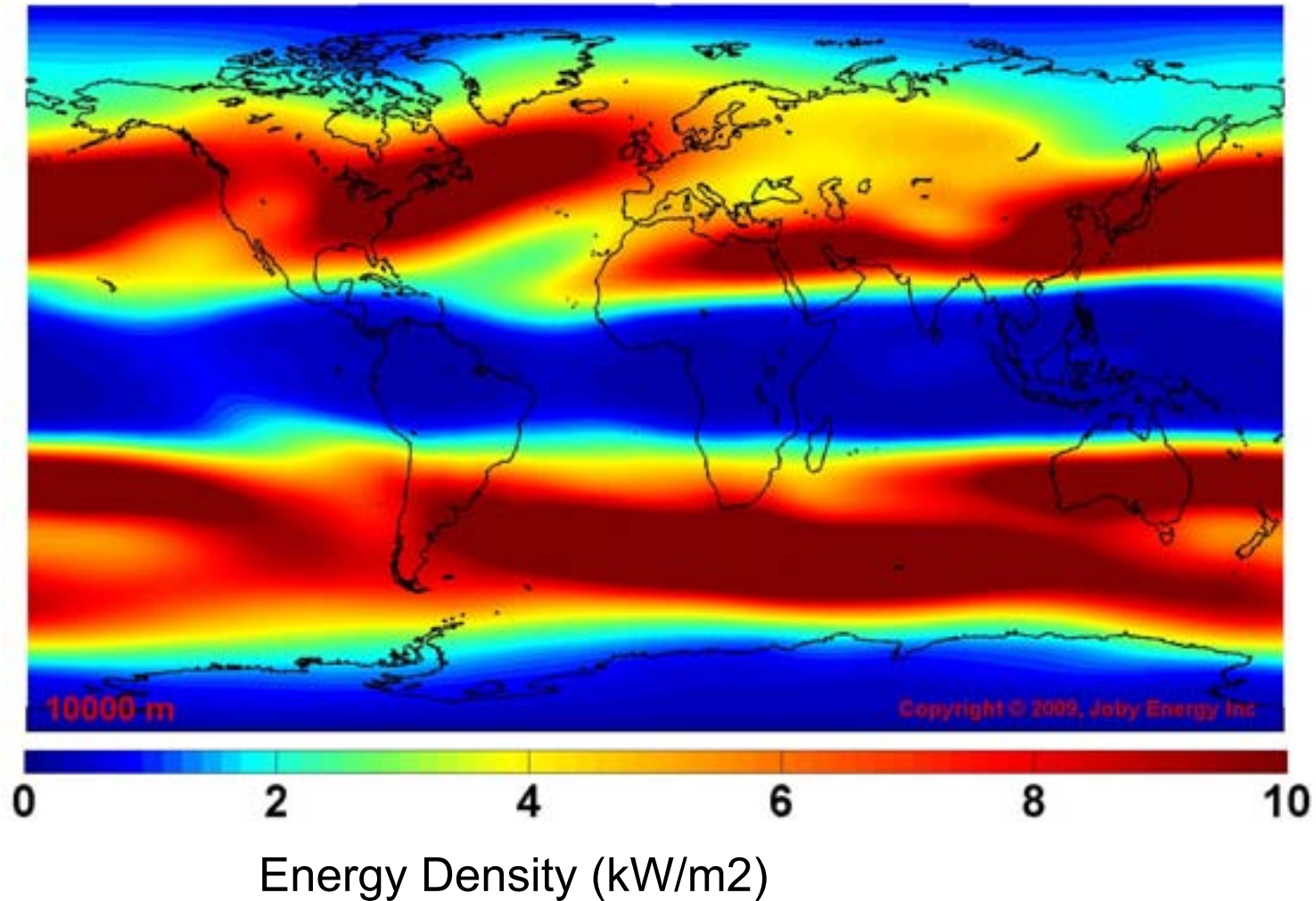
- Immediate need for new power
- Government support
- Aerospace R&D infrastructure
- Airspace access



SkyMill's R&D Team

- The Boeing Company
- Lang Associates
- Advanced Rotorcraft Technology
- High Performance CFD Facilities in India
- Others

The Global Opportunity



Source: Joby Energy Inc