

# Safe, effective small wind turbines for homes and businesses

PITCH VIDEO INVESTOR PANEL



halcium.com Salt Lake City UT

Infrastructure Technology Energy Sustainability Wind

LEAD INVESTOR



Tanner Allen

In this day and age, I believe we will lean more and more on distributed energy, I believe in innovation and always finding the better solution. Halcium, and the team developing and bringing to market this new product are track to build something amazing, and that can change the way we view energy, I believe in the Halcium team, and I believe in the Halcium product. I can't wait, or even imagine the continued growth and

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## Highlights

- 1 A small wind turbine with no external moving parts.
- 2 Specifically designed to produce energy in towns and cities.
- 3 Omnidirectional - can take wind from changing directions, or even multiple directions at once.
- 4 We've received interest from people, businesses, non-profits, and governments across the world.
- 5 Distributed energy is a \$250 billion market a year - projected \$581 billion by 2027.
- 6 Nearly 8,000 people have signed up to be notified when the PowerPod is ready to sell.

## Our Team





**Nicholas Hodges** Founder

Startup and small business lover. Expert in growing and scaling companies.

I believe in the future of clean power, but current wind turbines just didn't look like something I'd want on my house or business. I wanted a viable option besides solar panels to help generate power in cities and towns.



**Dr. M Metzger** Technical Adviser

Dr. Metzger is a professor of engineering at the University of Utah and our technical advisor. An expert in fluid dynamics, her 25+ year career has focused highly on vertical axis wind turbines and sustainable engineering.



**Emil Bohn** Growth Adviser

Emil has 30+ years of experience helping young, high-growth companies, leading both private and public companies. Previous clients include Black Diamond Equipment (now Clarus Corp), Blue Shield California, 3form, Packsize, and Kaiser Permanente.

## Pitch

### Meet PowerPod



A small wind turbine made specifically for the challenges of urban and residential environments.

It has no external moving parts. The internal blade is completely contained within the stationary shell.

### The Problem

In most towns and cities, the average wind speed isn't enough to even rotate a small turbine's blades.

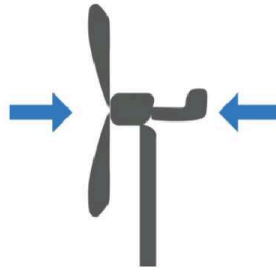


When a blade isn't spinning, wind slips between the blades. No contact = no



energy transfer.

Wind can also change directions suddenly, or even come from multiple directions at once, wreaking havoc on regular turbines.



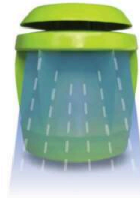
## The Idea

  
360°  
COLLECTION  
=

  
NO EXTERNAL  
MOVEMENT  
=

  
SAFER POWER

Gather up wind in an area and focus it on a blade designed specifically to receive it.



Omnidirectional - takes wind from any direction, or even multiple directions at once.



**NO EXTERNAL MOVING PARTS**  
Safe for birds, people, and wildlife

## Market

**\$250 Billion  
Annually**

**\$581 billion  
by 2027  
(11.5% CAGR)**

- Our target market is distributed energy sales around the world.
- D2C and through local distributors/installers.
- Distributors and installers around the world are already expressing interest to add the PowerPod to their offerings.

## Traction



Although the Kickstarter did not fund and was closed, since then interest has been shown by:

- ▶ Multibillion dollar companies in the US, Europe, the Middle East, Brazil, & India.
- ▶ Government entities from the US, UAE, and India.
- ▶ Sovereign wealth funds
- ▶ Distribution requests from 30+ countries
- ▶ Interest has come from every inhabited continent.

Note: interest is not actual orders, no money has been promised or collected.



Nearly **8,000** people have signed up to be notified when the PowerPods are for sale.

## Current Technical State

We have not yet reached minimum viable product for 3 reasons:

1. We lack the means to produce a proper custom blade for the circular opening.
2. The third party alternator we used in testing is very poor quality and isn't designed for VAWTs. It generates very little power even at extremely high RPMs.
3. The 3D printer we've been using to make iterations is breaking down, support and spare parts are no longer offered by the manufacturer.



We are  
**patent  
pending**

## Next Steps

Dr. Meredith Metzger, a professor of the University of Utah's engineering department, is leading the next phase of development.

Funding is needed to turn the project over to her to further develop the concept through CFD analysis and design iteration.



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