Our **Pitch Deck** is also available for download

Frequently Asked Questions

How or where can I buy a Harmony Turbine?

We are still in development and do not have units for sale yet.

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When will your turbines be available for sale?

We will spend the next 9-12 months continuing our development and testing efforts. We hope to be taking pre-orders for our first early beta units by late 2023 or early 2024.

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I believe in your vision, how can I help? Can I invest or donate?

We currently do not have any way to invest in Harmony. If you're interested in donating instead, please check out our Paypal and Patreon pages. Donations are a gift and do not grant you shares or equity in the company nor can they be used as a pre-payment towards the purchase of a wind turbine.

- Paypal: https://www.paypal.com/donate/?hosted_button_id=SCQAMZB8SYAGG
- Patreon. https://www.patreon.com/CreatingMoore

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I previously invested in Harmony. What are my Exit Options with your company?

First, please understand that we are an early stage development company in a SEED Funding round. That's about as "Early Stage" as it gets. Most investors dream of finding that amazing early seed stage investment but somehow they hope to also get the security and exit options that come from investing in a well established public company. Early seed stage investing (ie: Harmony Turbines) often carries the most risk. But with great risk comes the potential for great reward. You always hear everyone say "Oh I would love to have invested in Microsoft while they were still in the garage, or Google when they were just a new startup," well this could be the very same opportunity before you right now with Harmony Turbines.

As a new startup in the seed round, we do not yet have solid plans for Exit Options established. However, we believe that down the road there could be any of four exit options for our investors:

Dividends

We are already receiving dozens of calls every month from much larger companies looking to partner with us or manufacture our products for us or distribute and sell our products for us. Why? Because there is a huge need for our product and the daily outcry is nearly palpable; it's the huge gaping hole left by the poor options which currently exist in the residential wind marketplace today. As we move into a revenue-positive state we will certainly explore the option of paying dividends to our investors.

Secondary Trading

Sometime after 2024 we should have the option to enable secondary market trading of our stocks. If we decide to turn this on, investors would have the ability to trade our stock privately on the secondary market and sell their stocks directly on that platform.

Selling Harmony Turbines

We recognize that there may be a point where another company may be better equipped to handle mass production of our turbines. If we find that this is the case and that the company's mission is similar to ours, we

may opt to sell our company. At that point, the buyout terms would determine what happens with your stock, whether you keep them and continue with the new company or whether you choose to sell at that time, or some other unforeseen option.

Going Public
You never know, we could possibly go public down the road, at which time the IPO would allow you to trade your stock and achieve an exit from Harmony Turbines.

Exits aside, we want you to know that it is our goal that after a few years of hard work and extremely well-built products in the marketplace through low volume production, that we will have a very large following of loyal customers who are clamoring for more availability and better economies of scale that mass production of our turbines could bring. Our goal is to help create a “paradigm shift” in the marketplace where our amazing VAWT designs become the new standard in Wind Turbine applications, both big and small, around the world; safer, more beautiful, more efficient, less harmful to the environment, turbines that finally make sense!

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Did my investment or donation count toward the purchase of a unit later?

Sorry but no. All money invested or donated is separate from unit purchases later. Investment dollars are given in exchange for equity (stock) in Harmony Turbines. Think of this just like buying stock in any company on the stock market. That money cannot also go toward the purchase of items that company makes. Donations through Patreon or Paypal are simply donations and do not get you stock in the company. In either case these monies cannot be applied to future orders.

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Does investing or donating get me a higher spot in the order queue once you’re starting to take orders?

YES, once we’re out of the BETA testing phase, our investors & donors will definitely be prioritized above the general public for purchase of our units. Whenever a product is new the roll-out needs to be done very carefully. There has to be give and take as we learn and grow, find what works, fix what doesn’t work and improve the product for the greater community. But in the end **absolutely**, people who have supported us with investments and donations, will be the first in the queue to get our units as they become publicly available!

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I have the perfect site for BETA testing. Can I get a unit to test?

We truly appreciate your enthusiasm but there are a lot of factors that will go into our decisions for early BETA test sites. We will be looking for test sites where our turbines can be placed in wide open areas with good wind conditions, sites that already have appropriate mounting locations. Other factors will include proximity to trees and/or debris concerns, experience with renewable installations (have you done this before?), ability and eagerness to report results back to us, social media presence. These are just a few of the things we’re going to take into account as we start branching out to find our initial BETA testers.

If you fit this mold, please email us at support@HarmonyTurbines.com with your information about your location, average wind speeds, current battery storage / solar setup, and your experience with off-grid power, and we will add you to our list of possible future locations. Pictures of the location would help as well.

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What sets a Harmony Turbines unit apart from the others?

What makes us unique are our patented furling system protecting our turbines while producing full power through high winds and our variable air-gap axial flux generator design, which allows our turbines to self-start at very low wind speeds and produce high power output at low RPMs. See this video for a demonstration of the furling. https://youtu.be/a00XudmCjB0

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How can I learn more about your turbines?

We did a great interview with the Now You Know folks on YouTube. It was very informative, so if you are looking for more details about our turbines, please watch this! https://youtu.be/p4dfGDPUsGM. Also, please check out our Executive Summary for more details about our company, team and product.

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Can I place an order for a turbine?

We are not currently accepting orders. This is because we are still developing our final design for our turbines and our generator. As soon as we have things far enough along that we feel good about accepting orders, we will open them up to the public.

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Can you let me know when these are available to pre-order or purchase?

The best way to follow our journey is by subscribing to our youtube channel or by subscribing to our newsletter, we will keep you posted on our progress and it will be easy to know when and how you'll be able to place your pre-order! As stated above, investors and donors will be given first priority to units as they become available.

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What are the ratings for your turbines?

We do not have published ratings yet, because we're still in development and just now starting to work on those numbers. We have partnered with three prestigious engineering universities who will be analyzing and studying our technology specifically. We are excited to receive the results from the various testing methods they will be applying to the various models of our turbines, but these results will take time to come in over the next year until the end of 2023. We expect the current prototype we are working on (our 400w model) to generate around 400w in a 25mph wind, but the true power output will be determined by our testing, BETA Field testing and the various universities with whom we've partnered.

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Why do you rate your turbine in a 25mph wind? No one has wind that high?

All wind turbines are rated for production at higher wind speeds because there is not enough power in low wind speeds to make it worth the ROI (Return on Investment) for the unit. Generally, you will see most wind turbines, from small-scale up to industrial units, rated in the 20 - 30 mph (9 - 14 m/s) range. We simply picked a number in the middle of this range at 25 mph or 11 m/s.

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How much will your turbines cost?

We plan on selling our units for $5,500 USD for our 400w units, but that is subject to change as we move into production. Keep in mind the prices for raw materials are jumping around wildly so this also makes it difficult for us to give an accurate prediction. But we've always had the goal of an affordable price that covers our costs without gouging our customers.

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What is the expected ROI for your turbines?

We estimate about a 7 year ROI if you have good strong winds (~15 mph) in your area and $0.16 or greater cost per KwH electric.

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What is "good wind"?

We define "good wind" as average wind speeds of at least 15 mph (7m/s).

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How big will your turbines be?

The 400w units we are working on should have a scoop array that is approximately 5 feet tall, and 4ft wide when the scoops are fully open. There will be a little more height for the generator, perhaps another 18 inches. We expect the entire unit including the generator to be under 150 lbs. The first turbines coming to market will be best suited for residential use, installed in a yard using a concrete pad, and elevating the turbine 8 to 10 feet in the air so it doesn't hit anyone in the head. These will also be a good size for our boating community but we'll need to work on making a lighter version that can possibly attach at the base without the need of a frame.

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How do I connect my turbine to my house or battery bank?

We will partner with other companies who can provide the appropriate connection options for homes. We expect that our initial kits will likely just include the turbine itself with 3-phase AC output. We will sell optional DC system kits to make it easier for customers with DC installations.

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Will your turbine power my house?

We get this question a LOT! No, you can't really "power your house" directly from renewable sources like sun or wind. You need some way to "buffer" that power before you can use it to offset your monthly electric bill. Often today, that buffer is either 1) A grid-tie inverter, where you use the larger industrial power grid to buffer the power that you produce; or 2) an on-site storage system (battery bank) where you dump the power produced and then utilize inverters to power your home from that storage system.

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What type of setup do you recommend for a home?

We recommend a small on-site storage system setup with both solar and wind, hopefully Harmony Turbines! 😁 Right now there are just a few options for a "battery bank" for your home but as technology for storage improves, in huge leaps

each year, we should soon start to see “supercapacitor and ultracapacitor power banks” for homes as well as other cool options! Ultimately you want something intelligent and affordable with a LOT of recharge cycles! Our turbines will help offset your power needs by dumping power into your storage system when there’s wind, just as solar does when there’s sun. Then using inverters, you pull from this storage system to power your home.

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If money wasn’t an obstacle, what is the setup you recommend for a home?

I love talking about it because truly, we’re only just a few years away from mass-adoptions of systems like what I’m about to describe, popping up all over the world. If it happens, and we truly believe not only that it will, but that it MUST; then it will represent a tipping point, a paradigm shift if you will, in the way the world utilizes power. We will begin shifting from a centralized power model (our failing energy grid) to a DECENTRALIZED and sustainable model. It is what we truly believe needs to happen as quickly as possible around the world.

In this ideal setup, you can even stay connected to the grid (like a safety line) until you feel that you have things dialed in enough to be fully “off-grid”. Our ideal system consists of the below components on your home:

1. Sufficient small-scale renewables such as wind (Harmony) and solar
2. Sufficient on-site storage system with a LOT of recharge cycles before degradation occurs. Ideally 2 or 3 full days worth of storage
3. Inverter system(s) capable of supplying peak demand for your home needs
4. Utility Power -If you want a safety line initially
5. A sufficiently sized dump load
6. Smaller Backup generator

In this ideal setup if your storage [2] ever falls below 35% capacity due to insufficient renewables input [1] for a few days, your system will open a “down-stream only” circuit from your utility [4] to top your storage [2] back off to a more comfortable level of 50%. If your storage [2] ever drops below 25%, because perhaps the utility power [4] is offline, then your backup generator [6] will automatically kick on to top you back up to 40% before cycling off. If you ever get to 98% capacity due to over-production of renewables [1], your dump load [5] kicks on to utilize the excess power you’re producing.

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Can the setup above be made even more “GREEN” with some modifications?

ABSOLUTELY, with just a few creative additions, you could make the system above so “green” that it would blow your mind! The dump load [5] above could be literally anything if you get creative. Imagine a large compressor that compresses air into a large storage tank whenever you need to dump excess power. Now you could adjust your system above so that the previously stored compressed air runs a generator when your storage [2] falls below 40% and tops you back off to 50%. This way you’d reduce even further any need for pulling power from your utility [4]. This is just ONE of many ways you could make the “ideal” setup for your home as green as possible. The options are limited only by your imagination and your wallet! 😂

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I heard that grid-tie inverter setups will pay people for the extra power they produce, is that true?

Check very carefully with your local utility company on this, but in most cases you do NOT get a pay-check, you only receive a credit toward your future electric bills. In our opinion, grid-tie inverters are, at best, a suboptimal solution. They can be expensive and complicated to set up, not to mention a lot of paperwork with local municipalities. In the end they're really only helping to prop up the electric companies by allowing them to charge others for extra power you produce. Do we really want to help perpetuate the problems of failing electrical infrastructures today?

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Will there be bigger and smaller versions of Harmony Turbines?

Harmony's design is indeed conducive to scaling, both larger and smaller. Initially we will come to market with the 5ft x 4ft (400w) scoop array (like the white one in the videos). We're likely going to license the development of large models to other groups who are better equipped to handle the production of larger versions of Harmony Turbines.

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I want to manufacture, distribute and/or sell your turbines. How can we partner together?

Since we're still in development, we are not quite ready to discuss manufacturing, distribution or sales. However we are gathering information for future partners. Please send us information about your organization and how you would like to partner at support@harmonyturbines.com. We hope you'll continue following our journey by either subscribing to our youtube channel or by subscribing to our newsletter

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How will your turbines handle large amounts of snow and ice?

If you think of the first cars that were ever made, they did not have AWD or snow tires yet; those features came later after more research and development. We are taking the same approach with Harmony Turbines, starting with a base model and later working on more R&D to tackle specific additional scenarios such as snow and ice buildup (among other things).

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I see in your videos that you are using metal to create your test units. Isn't there a better material to use?

While we are making our first test units out of metal, we understand that this will not be the material that meets all needs. When we get further along in our research, development and testing, we will look at other materials to be used in Harmony's various applications. But for now while we're in development, we're working with metal because it's what is easiest for us to acquire and use during this stage.

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Which is better… solar or wind?

We are not in competition with solar! Solar and wind should work side-by-side in harmony (pun intended). Sometimes you have sun and no wind; other times you have wind and no sun. If you have good sun and good wind, you should maximize the power from both of them.

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Will your turbines generate power if placed along highways or train tracks where vehicles are regularly passing by at high speeds?

While at first glance this seems like a good idea, we believe that placing our turbines in these areas will not be as effective as one might think. Yes, they would generate power. But they would also cause resistance to the passing vehicles or trains, causing them to use more fuel / power as they move past the turbines. Can it be done? Yes. Is it the best application? Probably not; there are definitely better places to place our turbines to generate power.

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Will Harmony Turbines work in water?

Sure, with a few modifications, a Harmony Turbine would work in water. However, the whole point of the technology behind Harmony is to capture wind from any direction. Water usually flows in one direction, so the extra features in Harmony would mostly be a moot point. The furling would not be needed nor would our special advantages of our amazing generator. Can it be done? Yes, sure. Is Harmony the best type of turbine to place in water to generate energy? Probably not; there are other products out there that would be better suited for this application.

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Will your turbines work if placed horizontally along the peak of a roof?

Short answer, yes. While Harmony would work this way, it would be far from ideal. The real benefit of Harmony (or any other vertical axis wind turbine) is that when installed vertically, they can take winds from all directions. When you rotate Harmony (or any other VAWT) into a horizontal orientation, you negate the wonderful multi-directional benefits.

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In one of your videos you had a turbine in the back of your truck. Does your turbine power cars?

No. 😂 Let us explain. We have terrible wind in Pennsylvania and decided to put the turbine in the bed of our truck so we could “create our own wind” for some testing. To be clear, this tactic is not recommended and our turbine is NOT intended to directly power your vehicle. But, if you have an electric vehicle and you have a Harmony Turbine at your home location feeding into a storage system, then yes… I guess our Harmony Turbines would power your vehicle by recharging it whenever you plug your vehicle in! 😀

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How is your furling system controlled?

Many people ask us this question, wondering if our system is actuated by pulleys, springs and weights or by some electronic mechanism. We use an electronic control system for our furling mechanism. The default state for Harmony is fully OPEN so as the wind begins to blow and spin Harmony, one of the first things to power up is the little electronic

system that controls the furling of our turbine. One of the more beautiful (harmonious) things about our design is that it takes no power to hold a particular furling state, the only power needed is to move from one furling state to another.

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Wouldn't it be more simple to have an analog system (springs and weights) control Harmony's furling?

We get this question many times each week and the simple answer is NO. It would actually be much more complicated and problematic to control our furling with springs, weights and levers. Why? Because each of the segments is already at a different angle from the one before and after it, so you'd pretty much need an independent set of springs and weights for each segment, possibly even one for every scoop. Now that's 4 or worse, 8 independent systems to do one synchronized thing. But wait, it gets better. Each one would have to be properly synchronized with the others or the whole system would become unbalanced and create some nasty issues. But what about ball-governors (like you have in steam engines)? Those require high RPMs to work and Harmony is a low RPM unit. In the end it would really be a living nightmare to try to get all of those independent little systems working properly together. We've looked at it thoroughly and in the end it's just not worth the hassle. Additionally with our electronic system we will be able to play with finding more efficient furling states for various wind speeds. I have a theory that 100% open will NOT be the most efficient in all wind speeds below 25mph. I think being slightly closed in some cases will yield some surprising results. With an electronic system we can actually "dial in" the most efficient furling states at various wind speeds and RPM ranges. Try doing that with an analog system in an easy and straight-forward way.

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I have a great idea for Harmony Turbines, I'll share it with you if you add me to your patents and give me some stocks in exchange for my idea.

We truly appreciate your enthusiasm for improving Harmony but we have to draw the line at promising stock or signing NDA's with everyone who believes that they have a great idea for us. Sure, it's possible that your idea is original and it's actually something that would benefit our project. But to date, all of the ideas we've received for Harmony fall into one or more of the following categories: 1) Not feasible; 2) Destroys one of the main selling points of Harmony; 3) Something we're already going to do; 4) Something already being done or addressed in a different way by Harmony. That being said, if you truly think you have something that would be helpful then you have 2 choices before you. 1) Send us a private email to support@HarmonyTurbines.com and describe your idea to us. We're not in this to get rich and screw people over, we're doing this to help make the world a better place. If your idea is truly helpful we will work with you to properly compensate you for your improvement and/or idea. 2) Start working on your own patent and your own invention based on the prior art that Harmony provides. This is how the patent system works. So long as your new claims (ideas and functions) do not infringe upon our existing claims then you have no problem and you can begin developing your own project based off of ours.

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How is Harmony safer for birds than other turbines?

Birds, especially large soaring and hunting species like eagles, hawks and condors fly with their attention focused forward and down. They are not looking up or over their shoulders when they fly. Do birds even have shoulders? Harmony presents a solid structure to anything or anyone approaching it. There is never any "empty space" where the bird feels like it's safe to fly through. Current large HAWT wind turbines kill birds because they don't see anything in front of them as they approach. Then in the blink of an eye, the large blades of current turbines swoop down upon the unsuspecting bird and strike it with terrible force, delivering a "death blow." The poor bird never sees any danger in front of them. Even if

Harmony is made very large, birds will see a solid structure in front of them and simply fly around to avoid it, just as they do to avoid countless other objects in front of them each day.

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Can you put solar panels on Harmony's scoops?

Can you? Sure. But it might not be as efficient as you would think. Solar panels are most efficient when the sunlight hits them from a particular direction, straight on. Otherwise, the energy they are able to produce is greatly reduced when sunlight is not hitting them directly. Think of a round beach ball in the sun. At any given time of day, only a small portion (let's say 1/100th) of the beach ball is directly facing the sun. Likewise, Harmony's shape is round, and at any given time, whether in motion or sitting still, only a small portion of solar panels would ever be facing the sun directly enough to capture its energy efficiently. The rest of the surface area would be wasted over 95% of the time.

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Can multiple turbines be placed near each other?

In April 2021 Oxford University published an article theorizing that vertical axis wind turbines, if placed closely together, could increase each other's performance by up to 15%. We are partnering with Penn State University, who is studying our Harmony design specifically, to determine if this theory is true and if so, what would be the ideal pattern and spacing between our turbines for maximum efficiency in a multiple-turbine grid setting.

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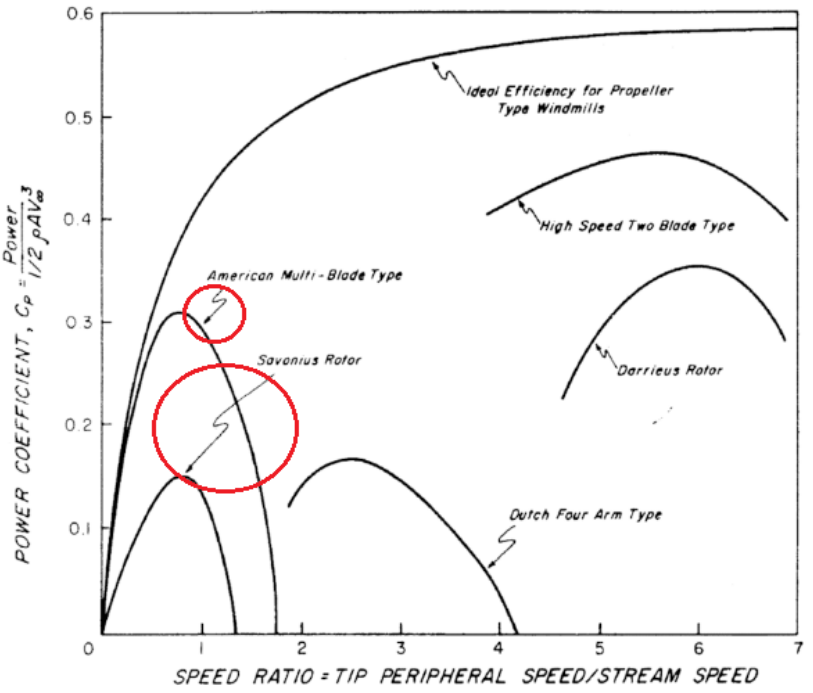
Everyone says that Savonius turbines have terrible efficiency compared to other designs. Why are you wasting time and money on this?

It's understandable that there's a lot of confusion surrounding this topic. When you do an internet search for "wind turbine efficiencies," 85% of the time you find this incorrect graph, showing Savonius turbines with the lowest ratings. This graph is wrong and has unfortunately been published for several decades. The magic of the internet makes people think just because they found a quick answer that it's the RIGHT answer.

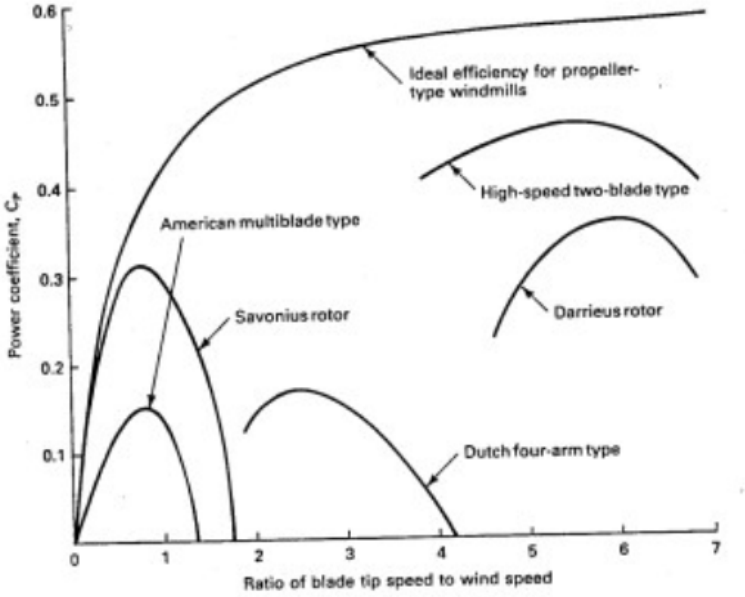
However, if you dig deeper, you'll find that this was a "mistake" (maybe deliberately done?) made back in the 1950's or 60's in some key publications.* That mistake simply got propagated and multiplied on the internet.

INCORRECT GRAPH - the labels are identical to the correct graph, but the arrows are wrong!



This is the CORRECT graph from the original publications before the "mistake" was made and proliferated. The lines for the Savonius rotor and the American Multiblade are correctly indicating the originally verified efficiencies. So for all of these years, two little lines drawn incorrectly have misled an entire generation into falsely believing that Savonius Rotor designs are not worth investigating.

CORRECT GRAPH



Harmony Turbines hopes to RIGHT this WRONG! Our discussions with our partner engineering universities confirmed that they are also aware of this discrepancy in the graphs and have been teaching their students about this mishap for years. So Savonius Turbines are definitely something worth looking into. It's why they are eager to study our turbines and see the data that OUR patented design brings to the table.

**https://www.turbinesinfo.com/innovative-wind-turbines/

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