

TURBINATOR LLC



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EXECUTIVE SUMMARY

Most people think of hybrid vehicles as the pathway between gas guzzlers and fully electric vehicles, but that sentiment is now a thing of the past. As electric vehicles are beginning to rise exponentially in usage, the gas-electric hybrid is becoming obsolete. However, decades of research and development by high level scientists has led to a complete reinvention of the hybrid. Electric cars are gaining popularity for many reasons, but having zero emissions is definitely the main selling point for the majority of buyers. Unfortunately, electric vehicles fall short of the hybrid in practicality. They can only draw power from one fairly small source of energy, causing the **range of many electric vehicles to be somewhat laughable** [1].

Amazingly, scientists have succeeded in creating an efficient wind turbine that functions by funneling air resistance from moving vehicles *as well as* by channeling a surrounding breeze while your car is parked. Turbinator will be the first company ever to take advantage of this sustainable wind electricity generation to extend the range of electric cars, ultimately pioneering the wind-electric hybrid industry. Why is a wind-electric hybrid desirable? Not only does a wind-electric hybrid boast zero emissions while extending a normal electric vehicle's range by fifteen to twenty miles, but it gives the option of converting your everyday basic electric car into a wind-electric hybrid vehicle! Our innovative break-through of a product does everything mentioned and more.

COMPANY OVERVIEW

Introduction

We are a new company in the electric vehicle industry. We have a design of our product - a wind turbine attachable to electric vehicles - and plan on going to market in 9 months.

Turbinator LLC is owned by CEO James Paterson, CFO Michael Bowers, and COO Gavin Ferguson.

Vision

Our company solves 'range anxiety' for electric vehicle owners. It is for the people who own electric cars but suffer from smaller charge capacities. Overall, our goal is to drastically reduce overall carbon emissions in an efficient, effective way by improving the electric car itself.

Mission Statement

Turbinator was founded to use sustainable energy to increase the range of electric cars, in order to increase the adoption of EVs and help reduce CO2 Emissions

Business Model

Initially, we plan to create a standard, attachable version of our product to sell directly to individuals across the nation. This product creates value by giving electric vehicle owners additional range on their cars, fixing the standard EV issue of range anxiety. The increased

range incentivizes EV and non-EV owners alike to make functional improvements to their vehicles. Eventually, we want to sign a contract with a large vehicle manufacturer to integrate our product into a model of their car, but initially we will be producing only B2C. Consumers will buy our product directly through our website to avoid the costs of a middle man. Our product sells for over \$1,000 more than it costs to make. Eventually, we would like to sell a less expensive product in order to spark widespread availability, but initially we will need a higher margin in order to stay afloat. According to estimates, we will need \$3,000,000 for the first six months of production with a subsequent \$1 million to stay in business after the first year (see Funding). This funding will mostly be used for fixed costs such as the manufacturing mold and the factory, and the repay time is very quick. Our financial models show that by the end of fiscal year 2024, all investments as well as their respective interest will have been paid back in full.

Value Proposition

We offer a way for electric vehicles to go further on a single charge while helping the environment in the process. We help the environment and eco-friendly people that have resisted purchasing EV's because of insufficient range to meet driving needs because of where they can drive because of the limitations their car has.

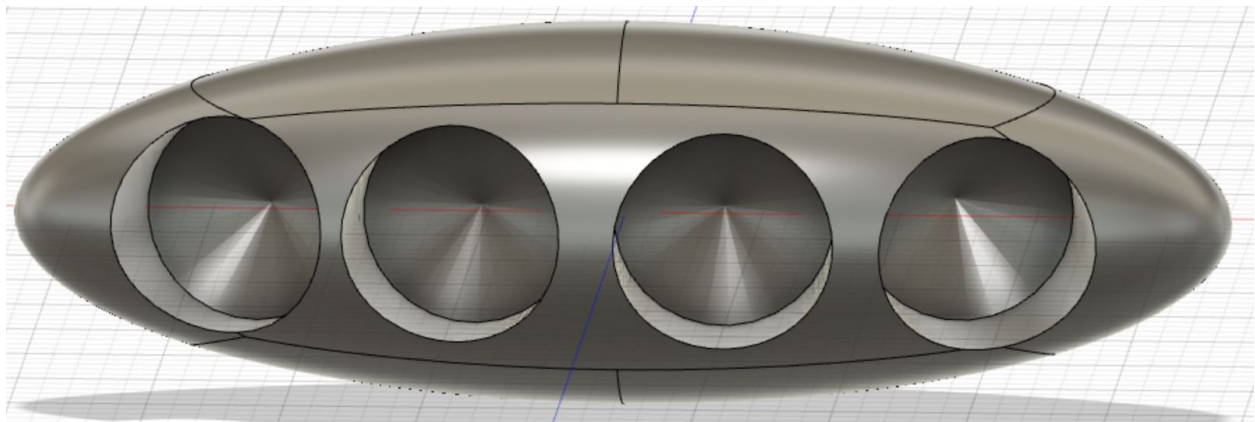
Competitive Advantage

We are selling an add-on product for electric vehicles, which does not yet have any major presence in the existing market. It is a way to increase the distance an electric vehicle can go on a single charge that helps the environment.

PRODUCT PLAN

Our product will provide supplemental energy to electric vehicles. Attached below is the rendering for our concept; the only differences are the shape and design of the turbine. Nestled within each of the four holes in the model are where the actual airfoils and turbines would be situated. What is not seen is the turbine connected to the car battery. We are differentiating ourselves from other wind/electric hybrid cars by the size, design, and cost of the turbine.

Unlike our competitors [2], we will sell a product that is affordable to the middle class by being smaller and using affordable materials. We are motivated to help a diverse group of people store and reuse energy as effectively as possible.



Features

Our product boasts numerous upsides as well as the potential for the addition of many more desirable features. Since a traditional grille is not a necessary component of electric cars due to the type of engine, EV manufacturers have a lot of creative leeway for that portion of the front of their vehicles. Oftentimes, they place unnecessary grilles on the vehicle anyway, simply for the

aesthetic. Our product takes the aesthetic value of grilles on electric vehicles and adds a functionality component to it. Our custom grilles direct airflow through specific sections of the grille, which contain near-frictionless wind turbines comprising eight airfoils and multiple magnets to keep it stable and minimize friction. **The function of the magnets is similar to their function on a bullet train track** [3] - the job of the magnet is to keep the materials close to each other while still abstaining from touching each other, negating friction. Having eight airfoils on each 'fan' **maximizes the wind speed - tip speed ratio** [4], maximizing the amount of power we can take from the wind blowing by. The turbines within the grille harvest a portion of the wind energy running through the airflow vents, using the power gained to recharge the battery and add an additional ten to fifteen miles on the vehicles' range. Initially, we plan to sell an attachable version of our product to individuals who already own electric cars. By using the limited range increase as a major selling point, we can more likely penetrate the market and grant ourselves the ability of expansion. Once settled in the industry, we aim to release the business facing version of our product; selling the value of the additional range that our product adds to electric vehicle manufacturers as an entry point for our business. As we increase the breadth of our product lines, we will slowly move towards a windy future - commercially and individually selling various turbines differentiable from competitors because of their relatively small size and comparatively high output. A major step up on the competition we can also take advantage of is contracts. Our initial goal is a contract with a large electric vehicle manufacturer, but we eventually want to be selling systems to all entities; businesses, cities, countries, etc. An intuition we have is that windier counties/cities are more likely to purchase

commercial wind energy systems, so we will likely direct our business in that direction once established.

Product Strategy

Our initial product will simply be a car grille composed of four fan-styled wind turbines for sale to manufacturers of electric vehicles. Our product harvests the power of the air flowing through the air vents of the car and uses it to assist in battery regeneration, increasing vehicle range.

The demand for a range increase on electric vehicles is high; the only predicted downfalls of our product concept found through our **product surveys** [5] were aesthetic issues and functionality issues. The integration of our turbines into the 'grille' takes away a lot of the aesthetic issues that could possibly have arisen - if EV manufacturers often place fake grilles on their cars for aesthetic purposes, it is viable to assume that our product will not have a large setback due to looks. Functionally, many people believe our product is an impossible concept due to perpetual motion issues of physics. In more basic physics courses this is a valid concern - turbine efficiency, friction, and drag coefficients seem to make it impossible to take out anywhere near the amount of energy put in. **However, society has yet again advanced enough for us to prove this thesis incorrect** [6]. The inclusion of magnets, the high number of airfoils, and engineering the turbine function on lift rather than drag collectively negate all three problems found in the conceptual design of our product. Bypassing the issues that arose in our product surveys gives us a viable base model to work with, but differentiation from competitors will still be an issue. Once we have been established within the auto manufacturing industry, we plan on increasing the depth of our product; including add ons, making multiple styles/types/colors, and other

such enhancements to increase the amount of comparative differentiation our product displays. In this same time period of deepening, we plan to invest a sizable portion of our capital into research and development of stationary systems, for commercial and individual use. We want to be able to roll out these products at a similar time, suddenly boasting the most broad line of wind energy products available. Our major point of differentiation lies within turbine size. Our turbines are much smaller than any competitor whilst boasting a comparatively high output. Unfortunately, production of such a product line isn't often a useful way to spend money as specialization normally proves superior. To roll out our stationary products in such a way, we cannot manufacture before sales during this exhibition stage. During the rollout, we will only start specific product creation once an order is in, noticeably lengthening the time between order and ship but taking away a lot of the risk involved with such a breadth.

Benefits

In this day and age, society has been granted by marvelous technological advances that allow each and every one of us to thrive in this complex world. We are built to make our customers lives as stress free and comfortable as possible. If we had the answer to entirely remove your energy bills, we would forget about wind turbines and grant you that answer. However, we hope that our product alongside our service will be a critical first step in that direction. We are well aware that not all of our customers will have the knowledge required to disassemble and reassemble their vehicle. Which is why we would like to reassure each and every one of you that our first interest is to make this process of collecting and redistributing energy as painless

as possible. All that we require is a phone call asking for assistance and we will be at your doorstep.

Once on the road or put to use, our key motive to ensure customer satisfaction will be the size of our product. It is our understanding that no one wants to put a bulky product on your vehicle that takes up a large amount of weight and space. We have been inspired to develop a product that we believe will be an effective alternative. As mentioned in our Functions section, the electronic vehicles that are being constructed in today's society do not require a grille. Instead, we plan to take the aesthetic value we have all gotten to know and love that a grille holds and use our product in place of it to help create a better functionality of its use.

Remember that one time you ran out of gas just a few miles short of your destination? We have all been there and done that (unfortunately). We might not be able to help your car run forever, but we can guarantee that we can give you **those extra miles required to get you to your destination** [6]. Who exactly prefers to carry a bulky turbine around attached to their personal property only to save a few extra dollars here and there? More importantly, who prefers to run out of gas rather than get to their destination? No one!

Proprietary Rights

Two existing patents by American Wind Inc [7] cover a specific model of the turbine we are attempting to create, mostly differentiated due to its size and its design. **Toyota Motors granted a patent application** [8] involving the usage of wind turbines inside air intake systems of cars to redistribute kinetic energy back into the engine battery. These existing patents create

obstacles that we will need to work around. Fortunately, a **patent concept** [9] by an individual inventor that outlines our exact concept has very recently been abandoned. Because of this, we are able to use his patent application as a guideline to ensure the success of our product. Our concept product features an intake like no other due to the spacing, size, and design of the turbines and we will need to move to patent our design sooner rather than later, which will cost around \$50,000 dollars.

Stage of Development

Our product is still in the development phase. We have 3D renderings of the product and the **math to prove that it works** [6]. Our next step is to build a prototype of this product. We are not ready for the market at this moment but we will be in approximately nine months. The main obstacle that remains is figuring out the optimal materials to use so that it is strong but does not corrode. It will be ready for introduction in about 6 months and ready for market in 9 months. We have a lot of availability for a first-mover advantage.

MARKET & INDUSTRY ANALYSIS

We are planning to enter the renewable energy market. Our entry point is within the electric vehicle industry - we plan to sell our product mainly as a range extender. The main problem we likely will come across is differentiating ourselves from the competitors and manufacturing a product actually valued more than its costs. However, the biggest advantage we will have is availability - we will have a similar product as our competitors, but at a lower price with much more widespread availability for individual purchase. In addition to individual production and sales, we will be selling our product to car manufacturers so that they can incorporate it into a new model of car. More specifically, we want to target American car manufacturers not only because they generally are on the more affordable side of the vehicular spectrum, but many of them also are beginning to assimilate electric cars into their vehicle lineups. A contract with one of these manufacturers allows us the opportunity to collaborate on a vehicle that will be the first of its kind in the market.

Our product is a wind turbine that placed where the grill would be on the car. All commercially available wind powered cars have the **turbine on top** ^[10] of the car, which is generally not aesthetically pleasing and often a reason to not purchase said product. Our product will help the environment and also look aesthetically pleasing to the point where people will want to buy

it. Functionally, the turbine will not completely power the car but rather redistribute the energy it generates back into the battery, allowing the car to travel much further on a single charge without sacrificing the power of the car. Some may believe this concept to be impossible due to perpetual motion in physics - however, there is not only **math proving it is viable** [6], but existing **successful prototypes** [2] built by multiple different car companies across the world. **Unfortunately according to one of our interviews** [11], a major risk we could run into is obtaining the raw materials for the product. Our product uses magnets and the magnets corrode very easily so we need to find en-masse a material that will not corrode so easily. **After research** [11], we also found that we need to make the energy that is generated worth the cost of production. However, with our sleek design, size, and keeping the power of the car, we will differentiate ourselves from any competitors because none of our competitors have a product with all of the given benefits rolled into one.

Market Analysis

Overall Market - The overall market we are planning to operate within contains all electric vehicles and electric vehicle accessories. **The global electric vehicle market was valued at \$162.34 billion in 2019, and is projected to reach \$802.81 billion by 2027, registering a CAGR of 22.6%** [12]. **Factors such as increase in demand for fuel-efficient, high-performance, and low-emission vehicles along with stringent government rules and regulations toward vehicle emission supplements the growth of the electric vehicle market** [12]. Unfortunately, there are a few obstacles that we may be forced to overcome on this journey. First, there are a lot of people who believe the instatement of renewable energy over fossil fuels will devastate the

American economy, leading them to lobby against the removal of fossil fuels in American politics. This is a very large problem - coal lobbyists are spending millions and billions of dollars to try to stay relevant, and that money may get in the way of our business. The main goal of our business is to improve the environment, and that triple bottom line is likely to help us a lot because of the stigma surrounding environmentally conscious companies right now. However, even **the North American electric vehicle market alone is estimated to reach \$194.20 billion by 2027, at a significant CAGR of 27.5%** [12]. This level of exponential growth is nearly unprecedented - the world is moving together towards a renewable future.

SEGMENTATION - We are planning on operating out of the United States, so naturally we will want to target Americans. According to **research done by Columbia University** [13], younger generations are much more inclined to be climate sensitive in comparison their older counterparts. Spanning from the millennials down to Generation Z, Americans aged 40 and under are unbelievably more likely to actively care about their environmental impact. With this in mind, we decided to target multiple different consumer profiles, mostly differentiated by their age, income, and values.

Demographics: Generation Z & Millennials that earn over \$100,000 annually

Psychographics: Environmentally friendly people, individuals on the left side of the political spectrum (democrats), college kids.

Geographic: Large American Cities (San Francisco, Los Angeles, Denver, NY, etc.); they are filled with individuals of our demographics and tend to have many more environmentally-conscious individuals than the rural areas.

Behavioral: Owners of solar panels, electric vehicles, or similar existing ‘green’ products. People willing to spend their own money to improve the health of nature, or people willing to spend their own money to marginally save electricity / money.

With these segmentation categories in mind, we drafted six target consumer profiles of different ‘people’ that we can prove would desire our product enough to purchase it. The main three profiles will be included below, with the rest in **the appendix** ^[14].

Consumer Profile 1: A democratic millennial aged 25-35 living in San Francisco who makes at least \$100,000 annually. Owner of a solar roof and/or a Tesla vehicle.

This individual has the existential problem of feeling like humanity is destroying the environment and is actively attempting to help change that. Our product gives this person value because we are giving them an environmentally conscious method of saving both money and energy. In addition, the wind turbine will add at least 15 miles onto the range of EV’s, taking away a major pain point of their owners.

Consumer Profile 2: A left-leaning, environmentalist, Gen-Z college student whose parents make over \$250,000 annually combined.

Similarly to the first consumer, this individual is driven to purchase mainly because of the environmental effect. However, this person is ideally not the one who purchases or uses the product; they are solely the middle man between our company and their parents, who likely would be harder to reach without their environmentally conscious child. This individual can solve multiple problems by coercing their parents to purchase our product - the parents are glad because they are incrementally saving money on the energy they use on a daily basis, and the child is happy because he coaxed his parents into making a environmentally significant difference, no matter how small it may seem.

Consumer Profile 3: Owners of electric vehicles that have despicably low ranges, such as the Nissan Leaf or the Honda Clarity Electric.

We will be targeting these consumers solely off of functionality. Owners of cars with shorter ranges are logically much more susceptible to range anxiety. Ideally, these people are more inclined than others to purchase our product simply for the range extension and nothing else.

Industry Analysis- James

The electric car industry and the demand for clean energy is growing at an exponential rate. Certain companies, like Tesla and Mercedes, have wind/electric hybrid cars, but they are priced over a million dollars. Our research shows that our product, a wind turbine add-on to an electric car, does not exist. As far as we know with public information, there is no add-on wind turbine industry. The Turbinator will be the first in its own industry so we would be building the market.

In the EV market, we found that it is projected to reach 26,951,318 units by 2030 from an estimated 3,269,671 units in 2019, at a compound annual growth rate of 21.1% during the forecast period. There is also evidence of rapid evolution with EV cars in the ongoing developments in the automotive sector. There are even favorable government policies and support in terms of subsidies and grants, tax rebates and other non-financial benefits.

Specifically in China, **ICE engine new car registration is now banned in some urban areas** [21].

Mercedes and Tesla both have wind/electric car hybrids so the industry does exist. However, the Tesla, Lotus Nemesis is priced at \$1.2 million and the Mercedes car is not street legal. So our product is technically a part of that industry but it will be in an untouched section of that

industry. The industry and market we plan to enter is untouched so we will be the pioneers of the market and control the market as well.

Competition:

Tesla

- Tesla has the Lotus Nemesis that has fans in the front of the car that help charge the car but it costs \$1.2 mil. So Tesla would technically be the closest thing we have to a direct competitor but the main difference is who we market to. Tesla markets to the wealthiest 1% where we will market to the other 99%.

Mercedes

- Mercedes has Formula zero that's completely wind powered but it's not street legal. It was necessary to mention Mercedes because they have a wind powered car but they are high end luxury cars so they will never market to who we're marketing. They will be an indirect competitor in time when their wind powered car becomes street legal.

American Wind

- American is wind energy but are not in the car industry nor the residential industry. They are important to mention because they are the main company in wind energy and a majority of things that use wind energy comes from AM. Wind. They will be a more indirect competitor and because they have patents on wind technology but will not be a competitor in the automotive industry.

Opportunity:

There is a large opportunity here because the industry we are planning on entering is untouched and the market does not exist. Once we enter, we can literally control the market. Our product is the solution for the problem of driving restrictions with EV cars. We know we would be successful because no one else is in the market. The opportunity will diminish in time so we need to act now.

MARKETING PLAN

We will market our product not as a novelty, but rather an innovative product that the middle class can afford. The current wind/electric powered cars are being marketed and sold to the wealthiest 1% given that the cars are priced over \$1 million. We will target the other 99% of people by design and making it affordable. If people can afford a car that helps the environment and has a sleek design, then our product is for them and it is something that we know people want and need.

Sources of information

- Market and Industry Analysis
- Customer surveys
- Interviews with experts

Customer Research

Our research shows that there is not only demand for our product, but a need as well. As you can see below in the charts, both sales and expectations of electric vehicles have had an exponential increase and our research shows it will continue to grow. Our product can be

added on to the increasing number of EV cars allowing the consumer to drive further on a single charge. The car manufacturers will take notice of our product because we estimate that 15% of all electric car owners will own our product and eventually, we plan to partner with car manufactures, like GM and Ford, to produce a factory model, electric/wind hybrid car that middle class people can easily afford. We even conducted interviews with a group of college students because when our product is at market, the college kids today will be the ones who are buying the cars in the future. We learned that the design, cost, and the amount of power it can produce are the most important factors when we asked if they would buy our product. The one thing that everyone in the discussion agreed on is that it has to be worth the cost, in the sense that, in the long run, they want it to save them money. We estimate that the consumer will see a return on their investment in our product in the amount of money saved on electricity costs in about a year on average. Graphs & explanations can be found in **the appendix** [15] [16].

Growing Expectations

OPEC's electric vehicle forecast grew by almost 500% last year

■ 2015 Forecast ■ 2016 Forecast



Source: Bloomberg New Energy Finance

Bloomberg



Target Customer Strategy

Customer Profiles: Our main target customer is people with electric cars who are wanting to increase the amount of distance they can drive off a single charge. We hope once we are established to partner with car manufactures, specifically ones that produce a more affordable car, like GM and Ford and so we would also sell business to business. The customers we would sell to are as follows:

- Demographics (gender, sex, age, race, education, occupation or profession, income, location, etc)
 - Male and female, age 25-60, educated enough to know how wind/electric cars can help the environment
 - Need to make around \$75,000-\$100,000 per year to afford the car
 - Located in suburbs and not dense cities
- Psychographics or lifestyle (attitudes, beliefs, opinions, interests, values, etc.)
 - Eco-friendly minded people
 - Want to help the environment but still want to drive a car
 - Interested in sustainable energy
 - Is on social media given that we will advertise on social media
- Social status (infers certain behavior: middle class values education, family activities, etc.)
 - Middle class individuals and families
 - Looking for an everyday car (not road trip or camping car)

Businesses or Organizations: The organizations that will purchase our product are in the automotive industry. We will specifically target car manufacturers. We will go to companies who have revenues well over \$1 billion like GM and Ford. The reason for this is because these companies can afford the production cost making it overall much cheaper to produce.

Customer Understanding

The target customer will find information and advice about our product through commercial advertisements, the internet via googling electric cars or wind energy, or at car dealerships where electric vehicles are sold. The customer has an assumption that wind/electric hybrid cars are very expensive; on our website, they will learn how they can make their own electric car a wind/electric hybrid car for an affordable cost. This is what will persuade the customer to buy our product, being that it is affordable and eco-friendly. One of the main things that the customer needs to believe about what we are offering is that it is worth the cost and that they will see a return on their investment with energy saved in a year. There is a need for our product, but the customer does not know it yet. Many electric car owners are restricted where they can drive because of the distance they are able to drive. This is where the need for our product comes in. It will allow the electric car owners to drive much further on a single charge and if they park where it is windy, then the car will continue to charge itself with the Turbinator. For non-electric car owners, there is a need as well. The Turbinator can also be mounted on a house or anywhere there is wind and be connected to a battery so that the energy created can be used at a later time. After seeing our website, the customer will immediately know what our product provides. Brand loyalty and switching costs are irrelevant because our product is an add-on. So the customer can keep their current EV car and the only “switching cost” they would pay is the cost of our product and the installation fee. The value our product will provide is extending the distance an EV car can drive which is the one thing current EV cars have limitations with. Our research shows that given the option, EV cars owners will choose to pay extra to make their car drive a greater distance.

Channel Strategy

We will sell on our website to begin and once we have the capital to expand, we will open a shop where we can sell products and also install them as well. Initially, we will be releasing individual add-on products to be sold via our website, direct to consumer. However, this is subject to change if retailers are interested. Once we partner with car manufacturers, they will create the car with our product in the car and then sell to public consumers.

Positioning

For people with electric cars wanting to drive further on a single charge, Turbinator is the clean, wind powered turbine that delivers an eco-friendly, wind/electric hybrid car, so that they can drive a greater distance and not worry about running out of power, because everyone wants to drive, help the environment, and not worry about being stranded because their car can't make the distance.

Branding Strategy

- Brand Identity – We want the customer to perceive our company and product as something that is making a difference in the environment and making it something that they want to be a part of. When a customer sees our company, they will see a wind turbine in a car which shows them there is viable alternative energy. When they see our marketing, they will know that they can change the world one car at a time, and when they see our website, they will see how the world is going “green” and follow suit.
- Brand experience – When interacting with our company, we want the customer to have the experience and have the feeling of doing something good, not for themselves, but

for the world. They should expect that they are making a difference. Our employees will emphasize how we are a company that is making a difference. They will also be kind and encouraging to try something new. We will emphasize quality service where it is an experience to buy our product.

- Brand personality – We are a company that cares about what we do and the world we live in. We are there to make a difference which is what our culture is.

Pricing Strategy

We will be pricing our product fairly expensively at the initial release - we want to be price skimming so that we can easily pay for our costs of goods sold through our first years of business. However, we still want to appeal to the lower-middle class, so we still want to price our product decently low in order to attract less wealthy customers. The initial price we are using is \$5,000 - our costs of goods sold is approximately \$3,500 per product, so a price of \$5,000 gives us a solid margin while also staying inexpensive. We are pricing through cost plus + markup because we know what it costs to make our product and we plan on decreasing the price over time, which is easiest done via decrease of markup.

The goal of this product is to pay for itself in five years - **at a savings rate of 15% and an energy price of 13 cents an hour, it will take approximately 3000 hours of driving to pay the initial product price in full** [6]. We know that our target consumers are willing to pay this because of our **product surveys** [5] - most people surveyed claimed that they would entertain a price point that can be paid off in a couple years time through energy savings. Decreasing our

payback period even just a year would put our product below its costs, and we cannot have a negative margin so at initial release we are aiming to have a payback period of five years.

Lastly, our price will mostly stay consistent among channels since our main channel used is straight to consumer via our website. However, we know that channels & mediums will need to increase the price of our product in order to make a profit for themselves, so we plan to sell to stores and channels at a *decreased* price in order to pay for their profits and entice stores into partnering with us and sell our product. The lowest price we will sell to a medium at is \$4,250 in order to keep a significant margin for ourselves while also allowing the channel owner to profit while still selling at our known price.

The combination of these pricing strategies, put to use over a period of a few years, would smoothen out our product rollout and allow us to penetrate the addressable market as planned.

Internet Strategy

In order to thrive in today's marketplace, we anticipate that a website will be created that functions as our homebase. A homebase that provides our customers with information directly associated with our turbines. This consists of background information as to who we are and what our motives are, how our customers can get their hands on our product and the steps necessary to go about that process. We do not plan to become an entirely new product. Instead, we anticipate that we are capable of making a modified product that is made

specifically at an affordable price for the working middle class. Using a website as our homebase will help us develop our own sense of a branded product.

If we plan to bring awareness to the general public of our presence, we will have no choice but to invest in taking advantage of the social networks made available to us. Through the use of platforms including Facebook, Instagram, LinkedIn and even Snapchat, we will be given the opportunity to make ourselves known. The goal of taking advantage of these social media platforms is to spark a conversation around the basis of our product. In addition to sparking this conversation and bringing awareness to our product, intertwining social media with our brand will help us take the first step in collecting an effective dataset. More specifically, we want feedback. We want to hear first hand what our customers are experiencing when exposed to our turbines. We want to find the flaws and make any changes necessary that ensure full customer satisfaction.

In addition to collecting a dataset that can help us evaluate the necessary changes that need to be made, we have come to the realisation that it will also be effective to reach out to our customers in an effort to make our brand feel personalized to each and every one of our customers. In doing so we plan to evolve a mechanism that functions as a chatting platform through our website that directly connects us to the customer. This function of our webpage will work from the standards of a one-to one individualized chat for personal questions or in some cases, we will create a group chat in an effort to answer recurring questions to mass amounts of our customers. This sense of engagement with our customers will ideally allow us to collect the data necessary for producing an effective future for our branded product.

On the flip side of our chat based interaction with customers, we have come to the agreement that a blog will be an effective tool in terms of using the internet to interact with our customers. In doing so, we are not waiting for the customer to come to us with questions. Instead, we will adapt ourselves to the world of blogging so that we can go to our customers with questions. We will begin with talking about some of the features associated with our turbines in hopes that we can bring some awareness to our customers about what all our product entails. As a result, we will ask for our viewers' feedback and answer their questions as needed.

Communication Strategy

Given that we are based out of the automotive industry, our first interest when interacting with our targeted audience is to speak where we are going to be heard. In order to accomplish this, our first area of interest is advertising through the use of radios. We envision acting as a guardian angel for those looking for a new approach when it comes to storing and reusing the energy that their automobile produces. We want to interrupt the conversations being conducted about this issue and shine some light on the idea that there is hope for all middle class automotive drivers. For those of us who choose to use an auxiliary as a way to avoid those advertisements, our next plan of attack is to engage ourselves with outdoor advertising. If we can't get your attention through the radio, then we anticipate presenting information on billboards for not one specific targeted audience to see but for all automotive drivers to see. We are well aware that we are unable to present all necessary information on these billboards in the few moments drivers have as they pass this form of advertisement. Which is why we will

advertise in such a way that expresses who we are, what our motives are and where viewers can go to learn more information (our homebase).

During our initial start up, we have been fascinated in the idea that direct response advertising could be an effective tool when it comes to bringing awareness to a targeted audience that we are the new guys on the block. In order to create awareness, we would virtually email and text a welcoming invitation to participate in our information sessions. This invention will cover logistics of the session including time, location, who we are, what our motives are and some sort of hidden aspect to our info meeting that ideally sparks the interest to come partake in this event and find out what we are all about. The key factor here is picking and choosing who our targeted audience is so that we have a better understanding of who is going to receive these invitations. In order to gain mass exposure, we are currently in the works of toying with the idea that we could live stream these information sessions (to be determined).

As time passes and our awareness in society evolves, we anticipate that our information sessions will eventually turn a page. There will come a time where the people that have shown interest in our product will demand that they get a visualisation of what all our product consists of. That being said, our information sessions will transition over to more of an exhibition approach. With our knowledge and background of the turbines that we are presenting, our exhibitions will allow us to give our targeted audience a first hand presentation of what our product consists of. In doing this, we hope that we can construct a new approach in terms of how our automobiles interact with the environment. Because we are motivated to present an environmentally friendly product, we anticipate that these first hand presentations during

exhibition events will gain momentum with a focus on how our turbines are the next step in creating an environmentally friendly atmosphere around our organisation.

Sales Strategy

In order to secure an effective sales strategy, we will be particularly focused on the personal selling side of the equation. In order to create the personal experience for the aspects associated with buying and selling our turbines, we need to pick and choose an automaker that we feel has the sales experience we are looking for to make the sale effectively. We want to satisfy the needs and requests of each of our customers independently. In order to do this effectively, we have come to trust that organizations such as Ford and General Motors will develop the personal relationships required to effectively pick and choose which turbine is going to be best suited for what the customer is looking for.

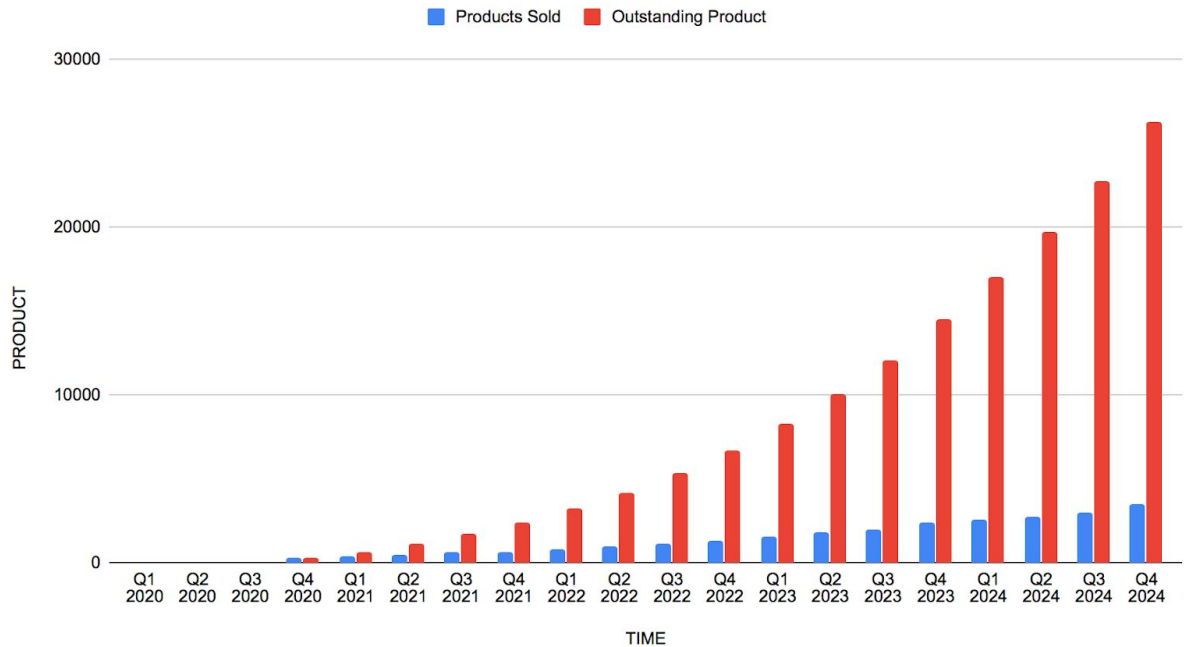
In terms of physically putting this exchange into effect, we feel that both manufacturer's representatives and telephone solicitors will be an effective tool in physically making the transaction happen. We feel that engaging with both positions will widen our horizons of how exactly we are engaging with the customer. In order to effectively generate leads in our uprising, we anticipate that applying our internet strategy alongside our communications strategy will make the necessary connections that we need to complete the sales of our product. The sales pitch is crucial from this perspective given that we need to make the ties necessary to state to the customers we are interacting with that our product is well suited for them. In order to keep track of the interactions that are being held in relation to our product, we will be conducting consistent check-ins whether over the phone or face-to-face so that we

are able to develop an effective dataset so that we are better able to plan for adjustments in the near-term and long-term future.

Revenue Model

Our sources of revenue come from two sources; sales & product maintenance. Since our product is designed to be durable the repairs revenue and the repurchase value will both be fairly low, meaning that the vast majority of our revenue will come from product sales. To model the number of product sales over time, we input **a combination of the Consumer Acquisition Costs, customer LifeTime Value, our estimated capital expended on marketing, and electric vehicle growth models** [18][19][12]. The chart below drives the financials of our company - it is the assumed production & sales of our product through the first five year period. As shown on the chart, by the end of the fifth year we will have approximately 3,500 outstanding products, **which amounts to 0.35% of the addressable market** [12].

Assumed Quarterly Production



Although this is a fairly low number, we believe it to be a reasonable estimate of the market penetration we can garner in our first years of production, especially given our price skimming strategy. Once we establish ourselves as a market contender, we can lower our prices and increase our output to begin moving towards our actual mission; moving the US further and further away from fossil fuels. However, we believe we must capture this market share before broadening our target. **Our financial projections** [20] are tailored towards our individual sales market. It is far from likely that we will have the opportunity to partner with a major vehicle manufacturer in the first five years of business, so we designed our model to mirror that sentiment. That being said, by the end of the year 2024 our individual product business will have progressed into a sustainable business, which definitely makes us a more attractive investment outlet for said vehicle manufacturers.

The numbers in our financials are mostly a result of two groups of assumptions; our price/margin%/COGS, and the cost to acquire consumers within the market ^{[18][19]}. Our monthly product sales are based off of our marketing expenses and our CAC, continued through the 5 year P&L. Another core assumption necessary for the financials to make sense is the lifetime value of a customer. This is more straightforward, as you can deduce a consumer's thoughts and decisions based off of the uses of the product. For example, there are few cases in which a consumer would purchase more than one of our products within a single year, which would cause our return rates to become lower. One such example is an individual who owns more than one electric vehicle. Altogether, using basic models for these assumptions allowed us to forecast the first five years of our business relatively accurately.

OPERATIONS PLAN

Introduction

In order to secure a competitive advantage in this market, we took the initiative to focus our productions on a modified turbine; this goes far beyond a basic advantage for our customers' vehicles. Additionally, we are striving to make the product available to a wider range of consumers, rather than just the select few who would typically be able to afford this product. In order to compete with this and to gain ourselves a competitive advantage, we will be taking advantage of the affordable approach so that we are able to target the remaining 99% of customers in this market.

In the first two-three years of production, we are going to expand our range of variety as we receive feedback and make adjustments as necessary. This can range from size, durability

and even functionality. We have constructed a general design that will act as a stepping stone for introducing to the marketplace what we are all about and where we strive to move our base product down the line in the near and long-term future. Once we have narrowed in developing stable relationships with our third party contributors, the base design will be transitioning from a concept to a reality.

Operations Strategy

Our key motive in order to develop effective operations both within the production process alongside getting our product in the hands of our customers will revolve around developing an effective communication basis that keeps our physical business in close contact with third party contributors. This will range from the third-party manufacturer to the shipping and delivery methods we encounter and finally to the overall customer experience. If we cannot develop effective core competencies that are shared and valued throughout our entire organization, we are not going to effectively pursue customer satisfaction, product development as well as perusing and maintaining stable relationships both within the organization as well as the customers that we welcome to become a part of our community.

That being said, the core competencies that we have pinpointed consist of the design of our product, the innovation that we are pursuing to reconstruct a turbine that is made available to a wider range of customers, and the values that makes our product unique from other marketed turbines. As we work beyond the development (startup) years of this industry, we have a targeted desire to widen our range of value to more in-depth designs, durability, and functionality. For the time being, we are going to narrow in on durability and efficiency.

In terms of our relationship with a third party manufacturer, an initial first step is to construct a list of the products that we will have on hand alongside the rates that will go along with it. That will be followed by highlighting the quantity of the order that we are placing which comes with our product's composition. In order to provide our manufacturing partners with necessary materials, we are going to be importing a range of necessities including steel and fiberglass along with lightweight wood, resin and aluminum from China and getting those materials in the hands of our American manufacturers. Once the order has been placed (both importation into the manufacturers possession as well as the exportation into the hands of the customer) and processed, we will take advantage of the website we have in place to document all moving factors that overlap with our third party contributors. As a final step to our work with a third party manufacturer, we will prepare our products delivery.

In preparation for our product's delivery, we are going to integrate ourselves with third party auto body shops. In order to integrate this aspect of our organisation, we will begin with a rundown of who we are and what we are providing to society. Once everybody is on the same page, we will use this partnership with auto mechanics to offer our customers the option to have a professional conduct the installation process. This is going to be done so that our customers do not feel overwhelmed if the customer finds himself or herself in a situation where they have the product but do not have the slightest idea how to get the turbine installed. This factor to our organisation is a crucial factor in order to successfully represent complete customer satisfaction.

Scope of Operations

The core competencies that will be valued in-house focuses on our participants to be well-trained, pinpointing optimal locations that will optimize our production costs and efficiency, processing/shipping, as well as presenting stable and consistent marketing/financial expertise. On a different note, we will use the development of a website in order to conquer the subcontract aspects of our organization. The implementation of technology into our organization allows us to maintain order and control what is happening to our products once they leave our facility in route to the possession of our customers. In order to successfully incorporate these technologies into our organisation, we will be implementing a third party website designer to construct a platform that maximises our productivity.

In terms of our in-house competencies, having well trained participants, optimal selection of location and presenting marketing/financial experience makes sense for our organization because we want to maximize our opportunity to share our organization's values with our valued customers. In terms of our subcontract aspects of the organization, relying on technology makes sense for our business because of all the moving pieces that will take place as we get our product in the hands of our customers. It simply is not possible for us to keep track all of our moving pieces without some extra support. The use of technology allows us to keep track and maintain what all is leaving our warehouses and where they are destined to arrive. Which allows us to emphasize our motives to capitalize on customer satisfaction. The use of technology in addition will allow us to maintain and keep tabs on what all is going into our productions. Keeping tabs on this kind of data allows us to make necessary changes as needed. As a way to maintain order throughout all of these moving pieces, we anticipate that an organization wide website will be necessary to function as a hard drive for all of this

information. We will have a general page that is viewed by our customers while providing professionals within the organization a variety of external tabs that allow us to maintain our objectives.

Research, Development, and Engineering:

In order to successfully meet our production goals, the factors that we need to take into consideration include acquiring possession of raw materials, physical manufacturing requirements, packaging/shipping expectations that our organization values and most importantly, maintaining control of our marginal costs as we work through each of these factors pertaining to our productions.

At this stage in the game, our development status is in the transition phase of making our concept a reality. More specifically, we have drawn out what our design entails but have not gotten our hands on a 3D printer that will be essential in the next phase of creating a physical model of our product that gives our third party manufacturer a clear understanding of what all our vision entails. Now that we have determined what we are against in terms of our competitive market, what costs our concept entails as well as the demand for our product, our next step is to develop a prototype that will be shared with a variety of our intended customers as well as some of our key partners that play a factor in making this organization possible. With their feedback, we will be able to develop a more in-depth marketing technique as we release

our product to our desired marketplace. Based on the feedback that we receive, we will be able to make necessary changes as needed. Once we feel that we are in a position where enough data has been collected, we will begin to prepare our productions for the first round of our product launch. Lastly, in terms of the licencing that will be associated with our use of launching technology resources along with the development of our website, we anticipate that we will be capable of securing that licencing with the money that is invested.

DEVELOPMENT PLAN

Management Team

We have a strong management team that has a young and determined mindset as well as a Board of Directors that has the experience needed to grow and operate a successful business. The structure of our business will be fairly straightforward up until we decide to IPO, which is too far in the future to accurately provide estimates at this moment. Initially, our company will be organized so that each of the CEO, the CFO, and the COO own 20% of the company. As explained in our **financial projections** ^[20], all investors will acquire portions of the company proportionate to their original investment in the company coming out to an aggregate total 25%. The final 15% of our company will be distributed among board members; at the moment

we have appointed four such people, but that number is subject to change. If we stumble upon a connection who brings additional value to the table, we may offer them a seat on our board.

- James Paterson CEO

- James Paterson is the person who thought up the original idea. Even though James does not have any experience either launching or running a business, we have the people who have that necessary experience on our board. While the board members can give guidance along the way, James can supply the leadership necessary to pull this team together. I have the determination, confidence, and leadership skills to run a successful company. In my experience in commercial real estate and financial services, I know what the consumer wants, how they need to be treated, and the reasons someone needs to purchase a good. This is a product still in the works but with our very strong management, our product will soon be to market, produced by a company that will be successful and is operating efficiently and professionally. Every investment is a risk, but just like our product, we are reliable and ready to go the distance.

- Michael Bowers CFO

- Michael Bowers brings many different valuable aspects to the team. He is the driver behind the financial side of the company; reports, projections, summaries, or anything of the like falls under Michael's reign. In addition to the financial skill that Michael brings, he also provides high-level oversight that can make or break the company. A major portion of our strengths on the consumer facing side of

business can be attributed to Michael, such as the branding, the underlying message, the company vision, and several other aspects concerning 'the look' of Turbinator LLC.

- Gavin Ferguson COO
 - Gavin Ferguson offers exceptional value to our team. While Michael may determine the 'look' of our business, Gavin decides how that experience will be actually delivered to the consumer. Our prowess in marketing is most definitely attributable to Gavin. However, this isn't even the most valuable aspect he brings to the table. Gavin also ensures the smooth running of the operations of our company, making sure that we are able to deliver a professional product in a timely fashion. Sustained by Gavin, our innovations in operations are one of our most admirable competitive advantages.

Corporate Social Responsibility

Our responsibility to our stakeholders is to do what we said we're going to do, but more importantly, be honest with them about our business so they know exactly what is going on.

Our stakeholders saw potential in our company and we want to show them that they made the right decision. We will have weekly memos be sent out that will give updates on operations, financials, and potential deals so that they know exactly what their money is being used for.

Board of Directors

- Robert Yost; CEO American Wind Inc.

- Likely the most prominent member of our board, American Wind Inc. CEO Robert Yost boasts an abundance technical knowledge available for the team. Since he has founded and ran his company American Wind Inc., he has nearly perfected the micro turbine design for mass production. Robert will be able to not only provide insight on the technical aspects of our product, but offer knowledge of the industry for our advantage as well.
- John Amboin
 - Former CEO of Nuveen, Managing Member at JA Capital Advisors, LLC, and Consultant and Chairman of Boards for multiple companies. John has the most experience running companies and his track record shows all the success he has had launching and growing companies. He is a great asset we have that will guide us to be a successful company.
- Thomas Virden
 - Thomas Virden was appointed to our board of directors because of his extensive experience founding and running companies. Most notably, Tom has founded/helped found Nymbl Science and boatbookings.com, two companies that powered through their infancy stages and into relevancy. However, expertise isn't the only value that Tom adds to our team. He also has been a prominent angel investor for quite some time, and will be able to connect us with various members of the industry and place our company in the optimal position to acquire the funding we need to succeed

- George Douaire
 - The expertise that George offers is very similar to that of Thomas's. However, George brings more value to the investment & growth stage simply due to his experience with Douaire Partners. For 18 and a half years, George has ran a successful investment business that assists companies in the early stages of growth in overcoming various obstacles in order to succeed. Nearly 20 years of experience in the startup world most definitely leads to a high level of wisdom, and we appointed George to our board in order to take advantage of that.

ESG Plan

Environmental:

- Given our company is all about producing clean energy for cars, we hope to reduce the amount of fossil fuels being burned in the world. We hope to set the example to the people on what they could do themselves to help the environment

Social:

- We will work with the suppliers and hold the same values as we claim to hold. We will discuss donating a percentage of our profits to the local community and encourage our employees to perform volunteer work there. Our working conditions show high regard for our employees' health and safety and all stakeholders' interests will be taken into account
- We will have a family friendly relationship with everyone we are in business with.

Governance:

- We will use accurate and transparent accounting methods and the stockholders will be given an opportunity to vote on important issues. We will do everything we can to avoid conflicts of interest in the choice of board members, we will not use political contributions to obtain unduly favorable treatment and, of course, we will NOT engage in illegal practices

COMPETITIVE ADVANTAGE

Our product has a few advantages but the main competitive advantage and that is our product does not exist in the market. We would be the first company to sell this product so we would control the entire market. The Turbinator's main use is to be put into electric cars; however, it can also be attached to a house or anywhere that has wind and be connected to a battery so that the energy could be used at a later time. There are wind electric cars that exist but no company sells an add-on wind turbine that can be easily installed to create an affordable wind/electric hybrid car. We will sustain our competitive advantage by getting patents on our

design, technology, and everything that we can get patents on to protect and hold our place in the market. Also, by the time strong competitors appear, we plan to already be partnered with car manufactures so we will be able to maintain the demand and keep a majority control over the market.

Sustainable Competitive Advantage

Identify the venture's resources:

- Financial - With our money and our Board's invested money, we have access to funds that will allow us to sustain in the beginning.
- Physical - Importing goods and raw materials from other countries
- Human - Board that has experience running companies and have a dedicated CEO, CFO, and COO who have the knowledge to produce a great product.
- Intangible - soon will have patents pending
- Organizational - Have contacts for suppliers and investors with the help of our Board of Directors

Identify the venture's capabilities:

- World Class Management
- Well developed, high profile, and accessible contacts
- Expertise - Sales, marketing, science, supply chain, product design, etc.
- Operational organization; optimization of sales/distribution/operations

What barriers can you establish that would restrict entry of competition?

- Intellectual Property
- Switching costs to your target market
- Customer loyalty, agreements with customers/suppliers/partners

- Control of distribution channel
- Lobbying for oil and gas companies
- Competitor selling a similar product cheaper than what it will cost to make

Strong competitive advantages: Intellectual property, agreements with customers and/or suppliers, access to funds, contacts for investors and suppliers, first to market

Credible competitive advantages: Control of costs, control of prices, location, world-class management, expertise.

Difficult competitive advantages: First to market, development lead time, brand, quality, service, execution, relationships.

RISKS

- Market
 - Market size will decrease, high net worth individuals willing to pay \$1.2 mil, competitors response will be to decrease price of wind/electric hybrid cars
 - We will be first to the market which means even if they do lower their costs we will have likely already taken a majority of the market
 - Competitors will likely lower their costs to stay in market
 - Size of market, length of sales cycle, price that customers are willing to pay, closing windows, competitor's response, predatory pricing.
- Strategic
 - Partnering with GM and Ford who have revenues over \$1 billion

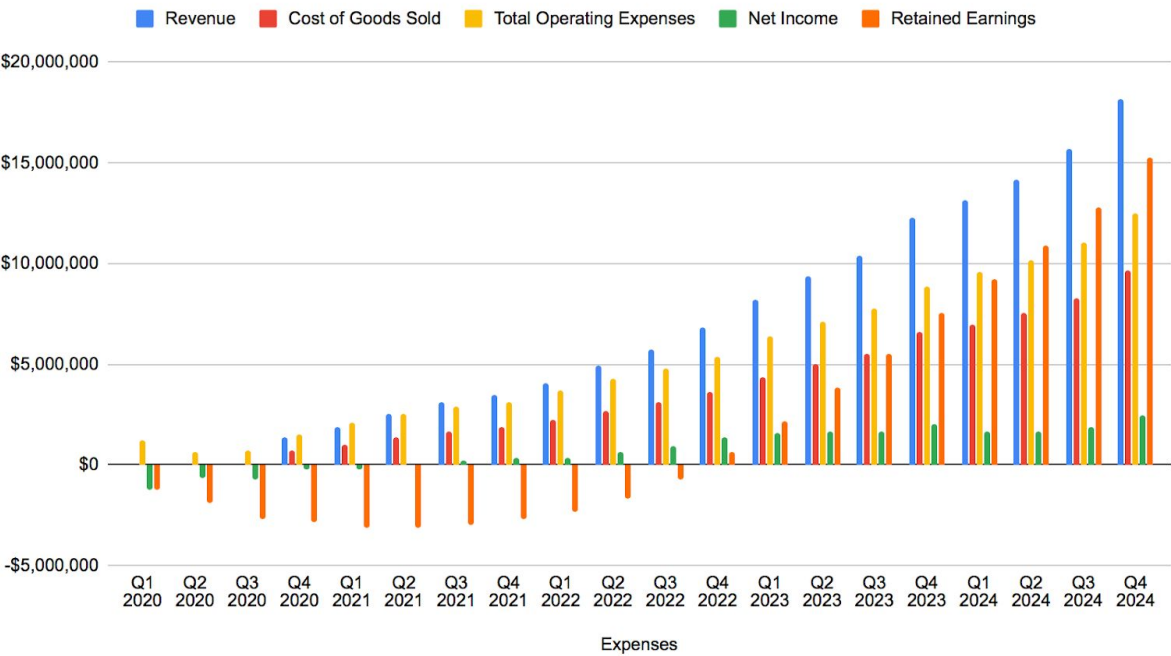
- Operational
 - Employee salaries
 - Renting factory and office space
 - Making sure we can mass produce our product and every products works the exact same
 - Large number of interrelated components, costs, quality level.
- Technology
 - Still in design phase
 - Math shows that it can work, but no existing prototype yet
 - Will it work? Patentability, time/cost to develop, scalability.
- Financial
 - Import costs from other countries where we would get our materials
 - Tariffs that are in place
 - Exchange & interest rates
- Macro-economic
 - Lobbying is for oil and gas companies which could be hard to get around
 - Trade barriers with countries that could potentially supply our product
 - Government approval, regulations & laws, current state of the economy.

FINANCIAL PLAN

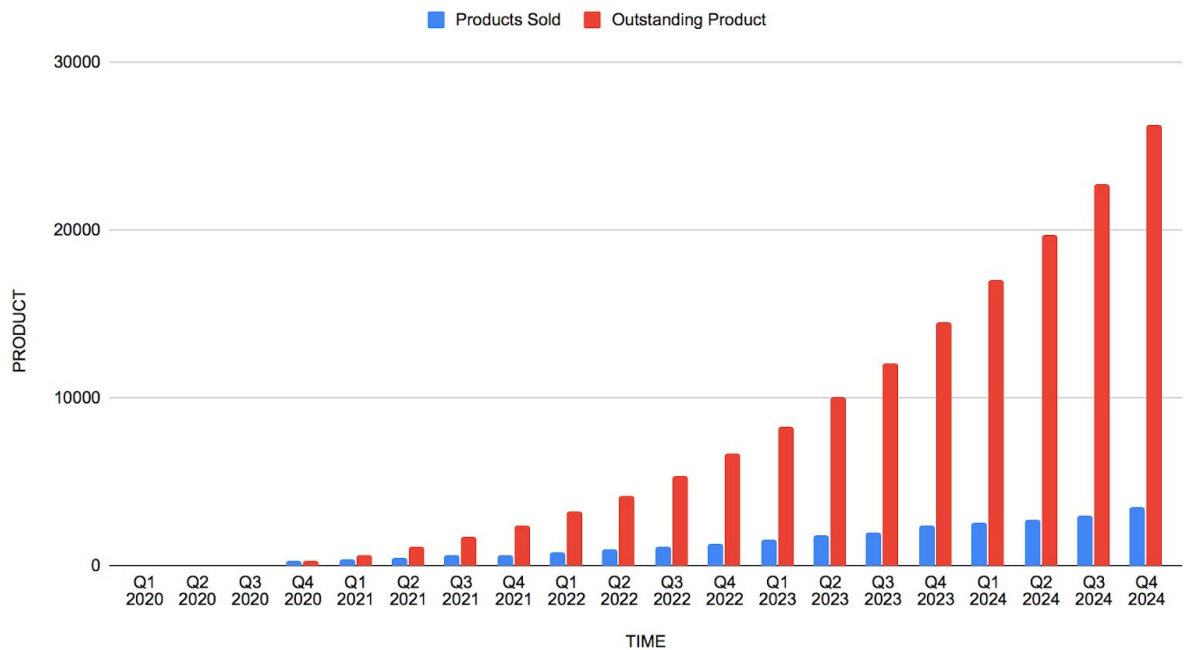
The most prominent key driver of our business is likely contractual. Acquiring a contract with a large EV manufacturer such as GM, Ford, or Tesla would give us the market penetration we need to make a name for ourselves. Although an exclusive contract with one of these companies would greatly increase our revenue concentration risk, we believe it would be well worth it to take on that risk in exchange for the numerous benefits that said contract provides. Another key aspect necessary for the success of our company will be the handling of our

operations - **our product has very expensive materials & needs very expensive machinery for timely manufacturing** [17]. If we successfully obtain the right machinery and materials at a fair price, our business would be exponentially easier to operate, lowering our need for labor along with our variable costs of making our product. Lastly, gross profit margin will prove to be a major key to whether our business succeeds or not. We are initially pricing our product fairly high (with almost 50% margin) in order to price skim the market. Our level of success in the early market will likely eventually dictate our price - since we have such a high margin we have plenty of room to cut prices if proven to be necessary. **The complete financial predictions for our business have been included in the appendix** [20], and a couple graphs organizing data from these projections are included on the following page.

Quarterly Financial Indicators



Assumed Quarterly Production



Key takeaways from these graphs are the break-even point, funding necessary before first ship, and time before production begins. As you can see, the model projects a break-even point between Q2 and Q3 of 2022. We will need approximately \$2 million before first ship and \$2 million in the following two years to stay afloat. This is mostly because the first nine months of existence will be focused on solidifying the foundations of the company; we aren't planning on actually beginning production until Q4 of 2020 in order to perfect our operations. Overall, it can be inferred that there is a large amount of money necessary to start up the company, but if this capital is acquired we can be very profitable in the long run. Specifics on funding can be found in the following section.

FUNDING

Approximate funding necessary - \$4,000,000

\$1,000,000 to start production

\$1,000,000 to cover first six months (Q1Q2 2020)

\$1,000,000 to cover Q3Q4 2020

\$1,000,000 to cover 2021

Most of our initial capital will likely come from equity funding. The founding members of our team are all voracious individuals who can and will leverage their contacts in order to make this project a success. Although we would love to pour our heart, soul, and financial well-being into this project, we are simply college students attempting to accrue millions of dollars. No money

that we throw into this project will make a dent in the funding, although we will still contribute wherever necessary. Our initial funding will likely come from our connections. Each member of our team is connected to a different sector of the United States. Altogether, our team has very wealthy and powerful contacts from all corners of America. We will most definitely use this to our advantage, talking to every influential figure that we know of to further improve our financial position. After we have accrued an admirable sum of money from our inner circles, we will move on to the corporate investment world, targeting various angel investors around America. A sizeable amount of secured funding will make our venture much more attractive to other investors.

Sources & Uses of Funds

We have decided to source the majority of our funds via equity funding. If absolutely necessary, we can debt finance but we strongly believe that we have the ambition and the connections for adequate equity financing. The funding will come in three stages: initial, takeoff, and flotation. The initial stage will be the hardest - we must find \$2 million dollars before our project has even launched initially. These funds will cover our startup costs - land, equipment, manufacturing molds, factories, and all of the initial costs will be covered with this stage. The next stage we call the takeoff stage because securing this funding will allow our business to take off. We will be unable to produce for the first six months, so this stage of funding will allow us to really begin operations and cover a major portion of the variable costs of the initial units. The final

stage of funding is the flotation stage. This stage is simply a precautionary measure, as the lower estimates from our model predict we may not make it through 2022 profitably enough.

Sources: Stage 1: \$2,000,000 Stage 2: \$1,000,000 Stage 3: \$1,000,000 Total: 4,000,000	Uses: Fixed Costs: \$585,000 Variable Costs before first ship: \$2,315,000 First/Second Year Losses: \$1,100,000 Total: 4,000,000
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Note: Losses in the first year include product launch expenses of \$500,000 and patent filing expenses of \$100,000.

Offering

For any amount invested (minimum of \$10,000), we offer a flat annual 5% ROI paid out quarterly. In addition, we are offering 2.5% of all future company profits for every \$400,000 invested in the seed round, scaled per dollar. These profits are estimated to begin payouts in Q1 of 2023, once the company surpasses the break-even. Examples of potential investments with their respective returns are below:

\$50,000 investment

Annual Return: \$2500 [\$625 per quarter] until repaid in Q1 2023

Future Profits Claim: 0.3125% [model approximates \$41,102 by 2024 EoY]

5yr Profits: \$48,602 (97.2% ROI)

\$200,000 investment

Annual Return: \$10,000 [\$2500 per quarter] until repaid by Q3 2023

Future Profits Claim: 1.25% [model approximates \$164,407 by 2024 EoY]

5yr Profits: \$199,407 (99.7% ROI)

\$1,000,000 investment

Annual Return: \$50,000 [\$12,500 per quarter] until repaid by Q3 2024

Future Profits Claim: 6.25% [model approximates \$822,037 by 2024 EoY]

5yr Profits: \$1,047,037 (105% ROI)

The statements above are simply a guideline. Annual return percentages as well as company ownership percentages are open to negotiation.

APPENDIX

[1] [Low Ranges on Electric Vehicles](#)

[2] [Expensive Competition, not Commercially Available](#)

[3] [Bullet Train Magnet Function](#) “Maglev”

[4] [Wind-Tip Speed Ratio](#)

[5] **Product Surveys**

We got a group of six college students who are graduating this year on the phone. We gave them the concept of our product and explained how it would work. We then asked for their initial thoughts on the product, is it something you would buy, what is important to you in a car, how much would you be willing to pay, do you currently drive an EV car or a gas car, if gas what would it take for you to switch, and what things attract you to purchasing a car. We asked a college students who are about to graduate because by the time our product is being sold at market, these are some of the consumers we will be targeting. The main thoughts that were said by multiple people was that it needs to be worth the cost and look “cool” once it is

installed. One student made the point that the world is going greener every day so there is a major need for an affordable eco-friendly car. Some other thoughts were:

- "The distance that it would add would have to be worth while"
- "I would buy the Turbinator if it could add the amount of energy of half a charge so that I can drive a charge in and half off one charge"
- "If you can sell the car and Turbinator together for around \$40,000 - \$50,000, then that would be relatively cheap for what you're getting"
- "I want to help the environment but I don't want to spend a million dollars to do it by paying for the current wind/electric cars on market"
- "If I could add on a wind turbine though and make my own wind/electric car then I would do that"
- "I like gas cars because of the power I get. I wouldn't buy an electric car if it I can't feel the same amount of power"
- "It would be silent and I don't like driving silent cars so I would be more inclined to buy the car if you could replicate the sound of a gas car"
- "The price, design, and it being environmentally friendly are the main things I am attracted to."
- "If I can add a wind turbine to my electric car and drive further, I would if it is worth the cost"

How do customers make buying decisions?

- *Affordability, design, and benefits*

Why would they not buy your product/service?

- *Prefer gas cars*
- *Don't want to buy a new car when they have a car that works*

Are the product/service features of compelling interest to customers?

- *Yes*

How much would they pay?

- *\$40,000 - \$50,000*

[6] [Successful Wind Turbine + Vehicle Experiment](#)

[7] [American Wind Mini Turbine Patents](#)

[8] [Toyota Motors Wind-Electric Hybrid Patent](#)

[9] [Independent Wind Powered Vehicle Turbine Patent \(Abandoned\)](#)

[10] [External Turbine](#)

[11] Discovery Interviews

Robert Yost; CEO at American Wind Inc.

Is it feasible to use wind turbines to harvest a portion of the kinetic energy (via wind resistance energy) that we expend when using vehicles such as cars, planes, and trains?

It will work; however, the problem with today's electric vehicles is to recharge the batteries fast enough to continue driving. The video shows my vehicle with the wind turbines mounted on top of the car. Most people believe using wind turbines will reduce the miles driven on a battery. Laws of conservation of energy. Wind resistance has an extremely small factor in the power needed for a vehicle to move. Weight is the most important part of vehicle energy efficiency.

But you are on to something. The most important part of the equation is V^3 . The more speed, the more power will be created. The "S" (i.e., frontal fan area) in the equation is relatively a small portion of the energy potential.

Are smaller turbines (radius < ½ meter) viable to harness large amounts of energy?

Most people believe the P from the equation is the amount of energy available. It is only the amount of energy available that is needed to convert into the rotation. The more efficiently you convert the wind energy P into the rotation, the more efficient the system will be. While Albert Betz's 1919 paper talked about this, you need to read his document fully. Here is an excerpt from his paper — this part of his power formula usually NOT taught in colleges and universities.

"That the vane velocity varies from point to point, would only increase the difficulty of the calculation, but would constitute no very great obstacle. That something has been overlooked, however, is obvious from the fact that, according to the previous considerations, the power is proportional to the wing area. We would accordingly be able to obtain any desired amount of energy with a windmill of quite small diameter by simply widening the vanes or increasing their number, which is contrary to all experience"

What problems do you see in our design concept? Are these issues fixable?

The problem is when you put transmissions or gearboxes into the drive train. Every time you add something like a gearbox, you get friction, which reduces the amount of energy available to transfer to the generator.

Secondly, traditional generators have a huge torque coefficient (i.e., drag). To make the system work, you need to reduce the torque in the generator greatly. How can you make that happen while still generating significant power? Remember generators only create power when there is rotation or movement. According to Jame Clerk Maxwell and Michael Faraday, however, they have not fully defined the equation properly.

Solving these issues make wind turbines very viable. Hence the MicroCube® technology.

Any additional input? Can be positive or negative.

A word of advice, always refer to the original source, when you are taught something like the power equation! Thoroughly study what the author is stating. The power equation, as defined by Albert Betz, is only to be used for non-ducted, open-air wind turbines.

My background comes from jet turbine engineering from GE Aircraft and Pratt & Whitney Aircraft Engines.

Thank you for writing to me. I hope this answers some of your questions. Unfortunately, I can't tell you all the discoveries we have found pursuing this technology. Fortunately for our company, other companies have validated our finding such as Siemens, Jacobs Engineering, SimScale, Georgia Tech Research Institute, just to name a few.

Good luck. We need great minds to question the status quo.

Robert Yost
President/CEO/Inventor
American Wind, Inc.

Nicholas Laurita
Mechanical Engineer - recently graduated from the Colorado School of Mines (Recently joined Genesis Alkali Westvaco).

Is it possible to use wind turbines to harvest a portion of the kinetic energy (via wind resistance energy) that we expand when using vehicles such as cars, planes, and trains?

It is feasible, however not practical. This is because the energy generated is not 100% due to inefficiencies in the system and is directly from the energy used to drive motion. This means that if you generate 0.75 Watts of power from a turbine system on the front of a car, it likely took more than 1 Watt of additional energy from the gas engine driving the car to make up for the increased resistance.

Are smaller turbines (radius < ½ meter) viable to harness large amounts of energy?

In theory yes. However, to harness large amounts of energy this concept must be applied with the economy of scales mentality. Meaning for this large energy generation, you would need thousands if not millions of them to make up the equivalent power of one larger system.

What problems (risks) do you see in our design concept? Are these issues fixable?

The problems with the designs assumes that the energy that causes the flow in pipes is free and abundant. Water is typically pumped into water towers, then gravity fed into the water infrastructure with a calculated amount of pump head to make up for the needed water pressure. To integrate a system such as this in water lines, means that you would have to have constantly flowing water and even greater water head to account for the losses due to generation.

Any additional input?

Look into the concept of pumping water into a reservoir to release later through a turbine system for "energy storage". Also look into how wind turbines are started and what the requirements are for them to run. Such as startup frequencies, required wind force, turbulence, and wind patterns.

Additional notes:

Energy generation in regards to turbine systems requires constant and precise flow. There is a transfer of energy, and the energy generated in a system is then lost somewhere down the line. Think about how "every action has an equal and opposite reaction". So taking energy out of a system at a middle point, means that this energy is either lost in the end, or requires a greater amount of initial input, however this energy has to come from somewhere.

THESE ARE VERY GOOD AND CLEAR OBJECTIVES. MY GUESS IS THIS MAY BE EASIER TO ACHIEVE WITH THE TURBINE THAN THE MAGNETS, BASED IN MY LIMITED KNOWLEDGE OF THESE ENERGY SYSTEMS REQUIRING SOME VEERY EXPENSIVE FORM OF MAGNET TO BE EFFECTIVE. YOU MIGHT WANT TO GET YOUR ARMS AROUND THE COST OF, AND ACCESS TO, MAGNETS.

We were also thinking about building a water turbine that is put in the water pipes at the main inflow and outflow of any building, both commercial and residential. The goal is to harness the energy from the moving water throughout the building so that the water you pay for will lower the overall energy costs of the building. This was my original idea and I am curious to see which one you like more, either the wind turbine or the water turbine? IN ADDITION TO THIS BEING A MORE NOVEL IDEA, ONE OF THE ELEGANT ASPECTS OF THIS IS YOU COULD (IN THEORY) PRESUMABLY HARNESS ENERGY FROM WATER BEING PUMPED AND WATER IN MOTION DUE TO GRAVITY.

Questions:

1. What are things you like about the concept? BOTH CLEARLY CONTRIBUTE POSITIVELY TO SUSTAINABILITY AND AFFORDABILITY. YOU WOULD THINK BOTH IDEAS MIGHT ALSO BECOME ELIGIBLE FOR LOCAL AND FEDERAL SUBSIDIES, TAX-CREDITS, ETC., TO MAKE THE POTENTIAL VALUE TO PROPERTY OWNERS EVEN GREATER.

2. Do you have any suggestions to make it better? NONE COME TO MIND. I THINK THE KEY WILL BE GETTING THE SCIENCE AND THE COSTS TO ALIGN. AGAIN, I THINK THE MAGNETS MAY BE A LARGE COMPONENT OF THE COST AND IN SOMEWHAT LIMITED SUPPLY. I HOPE IM NOT OVER-STATING THE SIGNIFICANCE OF THE MAGNETS, BUT BOTH IDEAS REQUIRE SUBSTANTIAL MAGNETS FOR ENERGY TRANSMISSION. ONE AREA YOU MIGHT FOCUS ON FROM A QUALITY STANDPOINT IS USING MATERIAL THAT IS RESISTANT TO CORROSION AND OTHERS THINGS MUCKING UP THE FLUIDITY OF THE TURBINES OR GEARINGS SINCE THERE WILL BE FREQUENT EXPOSURE TO WATER, DIRT, ETC.

3. Do you think this concept is viable? IT'S CERTAINLY VIABLE GIVEN THE AGGREGATE SOCIAL AND COST SAVINGS BENEFITS.

4. What risks do you see? HARD TO KNOW IF SYSTEM WILL CREATE ENOUGH ENERGY TO MAKE A REAL DIFFERENCE. ALSO, AGAIN, THE MAGNETS (COST AND ACCESS) ARE A RISK. I THINK THE CHINESE ARE BIG IN MAGNETS SO TRADE, POLITICAL AND CAPITAL RISKS ALL POTENTIALLY COME INTO PLAY AS WELL. OTHER SECONDARY RISKS ARE COMPETITION (LOTS OF OTHERS ARE PURSUING ALTERNATIVE ENERGY SOLUTIONS), LOW FOSSIL FUEL COSTS MAKING ALTERNATIVE ENERGY RELATIVELY EXPENSIVE, AND POLITICAL AND REGULATORY RISKS BECAUSE ALTERNATIVE ENERGY SOURCES OFTEN FACE STRONG LOBBYING OPPOSITION AND MANY REGULATORY AGENCIES ARE AFRAID OF EMBRACING CHANGE UNTIL IT'S WELL PROVEN.

5. Any additional comments or suggestions? HAVE FUN

6. Are there any questions I should be asking you?

7. Is there anyone else you think we should talk to? I DON'T KNOW ANYONE WITH EXPERTISE IN MAGNETS, BUT IT MIGHT BE WORTH ACCESSING SOMEONE WITH EXPERTISE RELATING TO POWERFUL MAGNETS AND THEIR ACCESSIBILITY AND COST.

[12] [EV Market Research](#)

[13] [Climate Consciousness Study](#)

[14] **Additional Consumer Profiles**

Consumer Profile 4: Children between the age of 10 - 18 in environmentally conscious, more liberal areas of the United States.	Consumer Profile 5 (Industrialized) - Tesla, GM, Ford, or similar company that produces electric vehicles commercially.	Consumer Profile 6 (future segment) - A rural American farmer aged 55-65, making barely enough for a living but still a huge advocate for American capitalism, the economy, and voting republican.
This target consumer actually is not the one doing the purchasing at all, similar to the college student target stated earlier. These children are being brought up with a very climate conscious perspective because of the general shift in attitude towards the environment, and marketing towards schools and the younger audience may rope in younger users who use their parents wallets to 'save the world'.	Tesla, GM, and Ford would take interest in our product because the addition of such improves the quality of their product. Rolling out a new model equipped with our turbines would not only increase the range of the vehicle by more than fifteen miles, but it would also save the owner of the vehicle approximately 10 cents per mile. Those are two major problems that electric car owners face every day, and our product gives car manufacturers the ability to solve those problems.	This target consumer isn't as easily reachable as our other two - this individual is a part of an additional segment that would not be too likely to purchase at the initial drop simply because they aren't actively involved in environmentalist activities. However, this customer will eventually see how our product solves one major problem in his life; our turbine saves him money for each volt of energy he uses throughout each day.

[15] [Graph 1](#)

[16] [Graph 2](#)

[17] **Sample Turbine Individual Raw Materials** [\(1\)](#) [\(2\)](#) [\(3\)](#) [\(4\)](#) [\(5\)](#) [\(6\)](#) [\(7\)](#)

[18] [CAC/LTV](#); Renewables, EV

[19] [Costs in Renewables](#)

[20] **Financial Models (Assumptions & Personnel, 12 month P&L, 5yr P&L + Cash Flows)**

Assumptions				
Cost of Acquiring Consumer				
Cost Per Watt	\$1.1			
Watts per system	7000			
<i>TOTAL CAC</i>	\$7,700			
Lifetime Value				
Units purchased / year	1.50			
Margin / unit	\$2,250			
Customer profit / year	\$3,375			
avg. years customer held	5.00			
<i>TOTAL LTV</i>	\$16,875			
[LTV] - [CAC] subtotal	\$9,175			
Product Price	\$5,000			
Maintenance Fee	\$250	Average 2.5% of outstanding product fixed monthly		
Installation Fee (individual sale)	\$500			
Product Costs				
Raw Materials	\$2,500			
Manufacturing	\$150			
Packaging	\$50			
Shipping	\$50			
Total	\$2,750			
Margin	\$2,250			
Margin (%)	45.00%			
Major Expenses				
Manufacturing Mold	\$250,000			
Patent Applications	\$50,000			
3D Printer & Software	\$25,000			
Smelting Oven	\$10,000			
Land	\$250,000			
Costs before first ship				
Major expenses	\$621,000			
Salary	\$1,695,000			
Marketing	\$270,000			
Investor Ownership				
5% Annual Interest paid	5.00%			
% Company per 400,000	1.00%			

Personnel			
Headcount			
	Annual Salary	#	Expense
CEO/James	\$70,000.00	1	\$70,000.00
CFO/Mike	\$70,000.00	1	\$70,000.00
COO/Gavin	\$70,000.00	1	\$70,000.00
Marketing/Sales	\$50,000.00	5	\$250,000.00
Operations	\$60,000.00	5	\$300,000.00
Directors	\$100,000.00	5	\$500,000.00
Engineering	\$100,000.00	5	\$500,000.00
R&D	\$100,000.00	5	\$500,000.00
Total			\$2,260,000.00

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	TOTAL
Revenue	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$405,000.00	\$456,500.00	\$510,000.00	\$1,371,500.00
Sales Revenue	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$400,000.00	\$450,000.00	\$500,000.00	\$1,350,000.00
Service Revenue	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$5,000.00	\$6,500.00	\$10,000.00	\$21,500.00
Cost of Goods Sold	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$220,000.00	\$247,500.00	\$275,000.00	\$742,500.00
Gross Sales Profit	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$185,000.00	\$209,000.00	\$235,000.00	\$629,000.00
Expenses	\$787,333.33	\$207,333.33	\$212,333.33	\$217,333.33	\$222,333.33	\$227,333.33	\$232,333.33	\$237,333.33	\$242,333.33	\$260,283.33	\$266,963.33	\$273,783.33	\$3,387,030.00
Employment	\$188,333.33	\$188,333.33	\$188,333.33	\$188,333.33	\$188,333.33	\$188,333.33	\$188,333.33	\$188,333.33	\$188,333.33	\$188,333.33	\$188,333.33	\$188,333.33	\$2,260,000.00
Marketing	\$10,000.00	\$15,000.00	\$20,000.00	\$25,000.00	\$30,000.00	\$35,000.00	\$40,000.00	\$45,000.00	\$50,000.00	\$55,000.00	\$60,000.00	\$65,000.00	\$450,000.00
Rent	\$2,500.00	\$2,500.00	\$2,500.00	\$2,500.00	\$2,500.00	\$2,500.00	\$2,500.00	\$2,500.00	\$2,500.00	\$2,500.00	\$2,500.00	\$2,500.00	\$30,000.00
Insurance	\$500.00	\$500.00	\$500.00	\$500.00	\$500.00	\$500.00	\$500.00	\$500.00	\$500.00	\$500.00	\$500.00	\$500.00	\$6,000.00
Utilities	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$12,000.00
Taxes	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$12,950.00	\$14,630.00	\$16,450.00	\$44,030.00
Fixed Costs	\$585,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$585,000.00
Total Operating Expenses	\$787,333.33	\$207,333.33	\$212,333.33	\$217,333.33	\$222,333.33	\$227,333.33	\$232,333.33	\$237,333.33	\$242,333.33	\$480,283.33	\$514,463.33	\$548,783.33	\$4,129,530.00
Outstanding loan interest	\$8,333	\$8,333	\$8,333	\$8,333	\$8,333	\$8,333	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$125,000
Net Income	-\$795,666.67	-\$215,666.67	-\$220,666.67	-\$225,666.67	-\$230,666.67	-\$235,666.67	-\$244,833.33	-\$249,833.33	-\$254,833.33	-\$87,783.33	-\$70,463.33	-\$51,283.33	-\$2,883,030.00
Retained Earnings	-\$795,666.67	-\$1,011,333.33	-\$1,232,000.00	-\$1,457,666.67	-\$1,688,333.33	-\$1,924,000.00	-\$2,168,833.33	-\$2,418,666.67	-\$2,673,500.00	-\$2,761,283.33	-\$2,831,746.67	-\$2,883,030.00	-\$2,883,030.00
PRODUCTS SOLD	0	0	0	0	0	0	0	0	0	80	90	100	
OUTSTANDING PRODUCT	0	0	0	0	0	0	0	0	0	80	170	270	

	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023	Q1 2024	Q2 2024	Q3 2024	Q4 2024	TOTAL
Revenue	\$0	\$0	\$0	\$1,371,500	\$1,850,925	\$2,543,500	\$3,118,775	\$3,506,100	\$4,001,150	\$4,980,425	\$5,758,550	\$6,801,725	\$8,171,550	\$9,352,050	\$10,382,450	\$12,123,200	\$13,125,700	\$14,174,100	\$15,674,625	\$18,157,125	\$195,382,550
Sales Revenue	\$0	\$0	\$0	\$1,350,000	\$1,835,000	\$2,515,000	\$3,075,000	\$3,445,000	\$4,010,000	\$4,855,000	\$5,625,000	\$6,635,000	\$8,005,000	\$9,185,000	\$10,080,000	\$11,560,000	\$12,700,000	\$13,680,000	\$15,105,000	\$17,550,000	\$181,425,000
Service Revenue	\$0	\$0	\$0	\$21,500	\$15,925	\$28,500	\$43,775	\$61,100	\$91,150	\$105,425	\$133,550	\$166,725	\$208,550	\$267,050	\$302,450	\$362,200	\$425,700	\$494,100	\$569,625	\$667,125	\$13,957,550
Cost of Goods Sold	\$0	\$0	\$0	\$742,500	\$1,009,250	\$1,383,250	\$1,691,250	\$1,884,750	\$2,205,500	\$2,670,250	\$3,083,750	\$3,649,250	\$4,380,750	\$5,005,000	\$5,544,000	\$6,572,500	\$6,985,000	\$7,524,000	\$8,307,750	\$9,625,000	\$72,283,750
Gross Sales Profit	\$0	\$0	\$0	\$629,000	\$841,675	\$1,160,250	\$1,427,525	\$1,611,350	\$1,885,650	\$2,290,175	\$2,664,800	\$3,152,475	\$3,790,800	\$4,347,050	\$4,838,450	\$5,739,700	\$6,140,700	\$6,650,100	\$7,366,875	\$8,532,125	\$63,098,800
Profit Margin	-	-	-	45.86%	45.47%	45.62%	45.77%	45.96%	46.09%	46.17%	46.28%	46.35%	46.39%	46.48%	46.60%	46.62%	46.78%	46.92%	47.00%	46.99%	
Expenses	\$1,202,000	\$667,000	\$712,000	\$601,030	\$1,060,917	\$1,128,218	\$1,181,934	\$1,248,795	\$1,513,596	\$1,587,212	\$1,668,536	\$1,737,673	\$2,027,366	\$2,111,294	\$2,190,692	\$2,298,779	\$2,571,949	\$2,652,507	\$2,747,681	\$2,874,249	\$33,388,896
Employment	\$665,000	\$665,000	\$665,000	\$665,000	\$765,000	\$765,000	\$765,000	\$765,000	\$965,000	\$965,000	\$965,000	\$965,000	\$1,165,000	\$1,165,000	\$1,165,000	\$1,365,000	\$1,365,000	\$1,365,000	\$1,365,000	\$1,365,000	\$19,300,000
Marketing	\$45,000	\$90,000	\$135,000	\$180,000	\$225,000	\$270,000	\$315,000	\$360,000	\$405,000	\$450,000	\$495,000	\$540,000	\$585,000	\$630,000	\$675,000	\$720,000	\$765,000	\$810,000	\$855,000	\$900,000	\$9,450,000
Rent	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$90,000
Insurance	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$30,000
Utilities	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$60,000
Taxes	\$0	\$0	\$0	\$44,030	\$58,917	\$81,218	\$99,534	\$112,795	\$131,996	\$160,312	\$186,536	\$220,673	\$265,356	\$304,294	\$338,692	\$401,779	\$429,840	\$465,507	\$515,681	\$597,249	\$4,414,816
Fixed Costs	\$585,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$585,000
Total Operating Expenses	\$1,207,000	\$667,000	\$712,000	\$1,543,530	\$2,070,167	\$2,511,488	\$2,883,184	\$3,144,545	\$3,719,596	\$4,257,562	\$4,752,286	\$5,386,823	\$6,408,106	\$7,116,294	\$7,734,692	\$8,871,279	\$9,556,949	\$10,176,507	\$11,055,431	\$12,489,249	\$190,279,596
Outstanding Loan Interest	\$25,000	\$25,000	\$37,500	\$37,500	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$675,000
Company Ownership Payment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Investor Repayment	\$25,000	\$25,000	\$37,500	\$37,500	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$675,000
Net Income	-\$1,232,000	-\$892,000	-\$749,500	-\$208,530	-\$263,242	-\$17,968	\$185,691	\$311,556	\$321,655	\$652,863	\$958,264	\$1,364,802	\$1,570,297	\$1,650,035	\$1,662,028	\$2,039,684	\$1,670,193	\$1,681,387	\$1,895,141	\$2,460,038	\$15,251,391
Retained Earnings	-\$1,232,000	-\$1,924,000	-\$2,673,500	-\$2,883,030	-\$3,152,272	-\$3,170,240	-\$2,964,549	-\$2,672,993	-\$2,351,339	-\$1,698,476	-\$742,212	\$622,530	\$2,192,887	\$3,842,921	\$5,504,950	\$7,544,633	\$9,214,826	\$10,896,212	\$12,791,353	\$15,251,391	\$15,251,391
Products Sold	0	0	0	270	367	503	615	688	802	971	1,125	1,327	1,593	1,820	2,016	2,390	2,540	2,736	3,021	3,500	26265
Outstanding Product	0	0	0	270	637	1140	1755	2444	3246	4217	5342	6669	8262	10082	12098	14488	17028	19764	22785	26265	
\$1 Million Investor Sample ROI	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$12,500	\$3,476,648
CASH FLOWS																					
Funding Necessary	\$2,000,000		\$1,000,000		\$1,000,000																
Retained Earnings	\$0	\$768,000	\$76,000	\$286,500	\$116,970	\$847,728	\$828,760	\$1,015,452	\$1,327,007	\$1,648,662	\$2,301,524	\$3,257,788	\$4,466,943	\$4,489,017	\$5,178,322	\$4,464,113	\$4,617,638	\$2,984,124	\$1,941,458	-\$361,240	
Cash Flows from Operations																					
Revenue	\$0	\$0	\$0	\$1,371,500	\$1,850,925	\$2,543,500	\$3,118,775	\$3,506,100	\$4,001,150	\$4,980,425	\$5,758,550	\$6,801,725	\$8,171,550	\$9,352,050	\$10,382,450	\$12,123,200	\$13,125,700	\$14,174,100	\$15,674,625	\$18,157,125	
Inventory Purchase	\$0	\$0	\$0	\$742,500	\$1,009,250	\$1,383,250	\$1,691,250	\$1,884,750	\$2,205,500	\$2,670,250	\$3,083,750	\$3,649,250	\$4,380,750	\$5,005,000	\$5,544,000	\$6,572,500	\$6,985,000	\$7,524,000	\$8,307,750	\$9,625,000	
Operating Expenses	\$57,000	\$102,000	\$147,000	\$192,000	\$237,000	\$282,000	\$327,000	\$372,000	\$417,000	\$462,000	\$507,000	\$552,000	\$597,000	\$642,000	\$687,000	\$732,000	\$777,000	\$822,000	\$867,000	\$912,000	
Wages Expense	\$565,000	\$665,000	\$665,000	\$665,000	\$765,000	\$765,000	\$765,000	\$765,000	\$965,000	\$965,000	\$965,000	\$965,000	\$1,165,000	\$1,165,000	\$1,165,000	\$1,365,000	\$1,365,000	\$1,365,000	\$1,365,000	\$1,365,000	
Taxes	\$0	\$0	\$0	\$44,030	\$58,917	\$81,218	\$99,534	\$112,795	\$131,996	\$160,312	\$186,536	\$220,673	\$265,356	\$304,294	\$338,692	\$401,779	\$429,840	\$465,507	\$515,681	\$597,249	
Net Cash Flow - Operations	-\$622,000	-\$867,000	-\$172,000	-\$172,030	-\$219,242	\$32,033	\$235,691	\$381,556	\$371,655	\$702,863	\$1,006,264	\$1,414,802	\$1,703,444	\$2,235,757	\$2,647,759	\$3,440,921	\$3,568,851	\$3,997,593	\$4,619,194	\$5,657,876	
Cash Flows from Investing																					
Purchased equipment/property	\$585,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Interest	\$75,000	\$75,000	\$37,500	\$37,500	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	
Net Cash Flow - Investing	-\$510,000	-\$25,000	-\$37,500	-\$37,500	-\$50,000	-\$50,000	-\$50,000	-\$50,000	-\$50,000	-\$50,000	-\$50,000	-\$50,000	-\$50,000	-\$50,000	-\$50,000	-\$50,000	-\$50,000	-\$50,000	-\$50,000	-\$50,000	
Cash Flows from Financing																					
Borrowed	\$2,000,000	\$0	\$1,000,000	\$0	\$1,000,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Loan Repayment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Investor Repayment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Net Cash Flow - Financing	\$2,000,000	\$0	\$1,000,000	\$0	\$1,000,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Outstanding Loan	\$2,000,000	\$2,000,000	\$3,000,000	\$3,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	
Net Cash Flow for all activities	\$768,000	-\$892,000	\$250,500	-\$208,530	\$720,728	-\$17,968	\$185,691	\$311,556	\$321,655	\$652,863	\$958,264	\$1,364,802	\$1,570,297	\$1,650,035	\$1,662,028	\$2,039,684	\$1,670,193	\$1,681,387	\$1,895,141	\$2,460,038	
Retained Cash Balance	\$768,000	\$76,000	\$28,500	\$16,970	\$847,728	\$828,760	\$1,015,452	\$1,327,007	\$1,648,662	\$2,301,524	\$3,257,788	\$4,466,943	\$4,489,017	\$5,178,322	\$4,464,113	\$4,617,638	\$2,984,124	\$1,941,458	-\$361,240		

[21] [ICE Restrictions](#)

[22] Extensive Risk Analysis

- Market
 - Market size will decrease, high net worth individuals willing to pay \$1.2 mil, competitors response will be to decrease price of wind/electric hybrid cars
 - We will be first to the market which means even if they do lower their costs we will have likely already taken a majority of the market
 - Competitors will likely lower their costs to stay in market
 - Size of market, length of sales cycle, price that customers are willing to pay, closing windows, competitor's response, predatory pricing.
- Strategic
 - Partnering with GM and Ford who have revenues over \$1 billion
- Operational
 - Employee salaries
 - Renting factory and office space
 - Making sure we can mass produce our product and every products works the exact same
 - Large number of interrelated components, costs, quality level.
- Technology
 - Still in design phase
 - Math shows that it can work, but no existing prototype yet
 - Will it work? Patentability, time/cost to develop, scalability.
- Financial
 - Import costs from other countries where we would get our materials
 - Tariffs that are in place
 - Exchange & interest rates
- Macro-economic
 - Lobbying is for oil and gas companies which could be hard to get around
 - Trade barriers with countries that could potentially supply our product
 - Government approval, regulations & laws, current state of the economy.

