



# Ducted Vortex Heating & Cooling System

Develop, Build, & Promote New Age HVAC Technology

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# Executive Summary

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The Ducted Vortex Heating & Cooling System is a New Age HVAC System that uses Eco-Friendly Green Technology that has minimal to no negative adverse effects on the environment. It uses a natural phenomenon known as a vortex that is commonly found in nature and our universe. In comparison to the current modern HVAC Systems, this innovation has eliminated the need for a compressor, heating elements, and all refrigerants. This will be accomplished by *simulating a slow-moving tornado that produces a self-contained vortex that separates the high- and low-pressure air streams to create hot and cold air naturally on-demand for leisure purposes.*

*This net-zero compliant innovation has been simplified to be built with very few moving parts and is scalable to any size imaginable. The unit is claimed as a first-generation HVAC System that recycles wasted mechanical energy and converts it into electricity which is added directly back into the unit. Currently we are seeking a first round of funding to advance this project to the market-ready stage of development. This round of funding is essential to progress this innovation into the next chapter of energy conservation and protection of the environment for future generations.*

*This is a ground floor endeavor that could have positive impacts across the spectrum of the entire HVAC industry. Ducted Vortex, Incorporated's immediate intention is to build out a polished aluminum base working prototype model that can toggle between 80 degrees F and 65 degrees F. This will be accomplished simply by a push of a button on the unit or a common thermostat, with future goals of using an app on a smartphone to liken even more convenience for the consumer. To achieve these goals and others there are three phases that must be completed to move this project along accordingly. In securing a customer base key initiatives that were addressed include: practical use, reasonable maintenance, cost effectiveness, energy saving probabilities, efficiency, and sustainability.*

*The HVAC industry has the potential to reach a market share of more than 132 billion US dollars on a national and global scale in the soon to near future. It is our intention to raise \$150,000 to \$1,000,000 in this first round of funding. Our goal is to work with a sole Angel Investor or multiple investors that would like to be a part of history and help Ducted Vortex, Inc. achieve an alternative method of heating and cooling that could possibly change the world.*

## Introduction

*The engineering tailored behind the heating and air-conditioning industry has progressed slowly since the inception of HVAC in the early 1900s. There have been many attempts to replace traditional HVAC with new concepts, but all have proved elusive to provide sufficient means for utility heating and cooling purposes. Currently, there are scientific undertakings to create real-world impacts on the environment directed toward changing the current HVAC technology and how the comforts of such are produced.*

*The novelty of the outlined details an innovation that produces hot and cold air for residential and commercial utility applications. Initial research observations suggest scalability to any size imaginable with efficiencies that are comparable or could even surpass traditional HVAC heating and air-conditioning energy ratings.*

*The novel innovation, weighing 2/3 less than conventional HVAC systems, can be an economically and environmentally more viable stable solution for consumers leading into the future. A fully operating standard Ducted Vortex Heating and Cooling System, such as the window air-conditioner described in this proposal, will function on a lower wattage than traditional comparable units. By accomplishing this feat, it would claim this innovation to be one of the most eco-friendly systems available on the global market. These efficient low-wattage capabilities will eventually lead to research that extends into powering the system with alternative methods such as solar panels. This system is designed to be scalable in order to create a Ducted Vortex System that can heat and cool homes, factories, barns, and ships.*

## Current Standard & Solution

### Current Standard

*The underlying issues with the HVAC sector today are that companies focusing on comfort and control solutions still use the same methods that were invented over 100 years ago. Refrigerants, chemicals, and heating elements that were supposed to be a temporary guide in helping to solve heating and cooling needs have now become the staple of an industry and an acceptable part of everyday life. Current times in midst of other various technological advances seem to suggest that the standards of the HVAC industry may be outdated. A century later, we still pollute the environment with harmful contaminants (CFCs) that are slowly weakening the earth's ozone layer at a rate not sustainable for future generations.*

### Solution

*The time is now for us as a society to begin and reverse or stagnate the previous damage(s) done by an HVAC industry that has not changed its business practices in over a century. Ducted Vortex, Inc. is seeking up to \$1,000,000 in an initial round of funding to create market-ready versions of prototypes to explore a new chapter of energy conservation and net-zero compliance directed specifically in the HVAC sector. To advance to the next stage of scientific progression and further this exciting innovation, funding is needed to produce working prototypes that will intrigue investors and consumers alike.*

*We believe that the Ducted Vortex Heating & Cooling System could be the most efficient, lightest, environmentally friendly, and cost-effective heating and cooling solution in the world. Funding for a market-ready version is necessary to advance this innovation forward or completely rule it out as a viable solution to our heating and cooling needs across America.*

*By pushing the engineering envelope to the limit by recycling energy that would normally be wasted, the Ducted Vortex Heating & Cooling System will provide a green and healthier solution to an outdated HVAC industry. The specifications of the Ducted Vortex Heating and Cooling System are not limited to only this type of application. Various versions can heat and cool homes, factories, barns, warehouses, and marine vessels. It is completely scalable to any size imaginable.*

*The goal from the beginning of product design of this innovation was to introduce new and simple engineering concepts that will create an alternative solution of heating and cooling moving into the future. This New Age heating & cooling solution will also complement the current HVAC industry standard. The Ducted Vortex System could potentially provide much needed relief to the many already strained power grids across the United States of America.*

*The objective is to create one of the most energy efficient heating and air conditioning systems environmental improvements worldwide. This is going to be accomplished by introducing novel technology and pushing the engineering envelope to the limit. By recycling energy that would normally be wasted and not using any fossil fuels or refrigerants, this new form of HVAC technology will exist concurrent alongside HVAC industry standards used today.*

## Mission Statement

*Our mission is to generate sustainable renewable energy by protecting the environment through creative engineering and maintaining the highest quality cost effective heating and air-conditioning economic improvement solutions worldwide.*

## Keys For Success

*A specific amount of capital is needed in order to get this project to a point of investor and consumer appeal. Once certain goals moving forward are continuously met with perfection, vast amounts of attention will presumably be drawn into this new arena of HVAC technology. There are detailed phases that must be met in a specific order and completed in a timely fashion. It is our complete intention to not prolong the development of this innovation to any degree so that all potential investors and consumers may benefit from this emerging green technology more soon than later.*

*The goal is to protect the investor, while also securing equity shares for business enterprise leading into the future. It is important to note that Ducted Vortex, Inc. is seeking an angel investor(s) that are aligned with our business model of creating an environmentally friendly HVAC system that can possibly alter the course of the world and humanity. Investors that are goal oriented towards humanitarian needs as well as interested in helping to further a novel green energy project are ideal candidates. This is not a project based on only fiscal reasons, but rather moral standards of helping provide a better alternative for an outdated industry.*

## Description of Business

*The necessity of change surrounding the urgency of energy consumption and environmental needs highlighting HVAC standards demands an immediate reevaluation and eventual overhaul. A novel utility application such as the Ducted Vortex System that is focused on heating and ventilation with air-conditioning HVAC functions will create far-reaching effects that within the scope of this innovation the ozone layer itself will begin to heal more rapidly due to the environmental precautions that are entertained through innovative engineering. Remaining mindful of environmental responsibility, the **Intellectual Merit** and **Broad Impacts** of the proposed innovation will bring new meaning to the metaphor 'The Sky Is The Limit.' The Ducted Vortex System creates the ability to accelerate the goal of reaching a net-zero carbon footprint the HVAC sector by focusing on significantly reducing CO2 emissions and refrigerant pollutants into the atmosphere.*

## Legal Entity

*Ducted Vortex, Inc is an Active Corporation in Jacksonville, Florida EIN No. 86-2958533*

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## Sustainability Plan

Ducted Vortex, Inc. has a long-term sustainability plan that strategizes a detailed vision of the company and project goals moving well into the future. As a well-organized business endeavor that focuses on practical business solutions and fiduciary responsibility with sustainability, every aspect of this project will be detailed and professionally organized. It is our intention to secure the first round of funding from a single angel investor or combination of investors. Philanthropy donations on national and local levels will also be welcomed and sought after. These types of donors contribute support towards environmental endeavors and projects focused on renewable energy with innovative engineering that can potentially change the world. Small incremental donations pave the road for projects such as these to advance an agenda of moving towards a greener future for generations of people to come. As this project becomes more accomplished with each step and goal, streams of revenue from green energy groups and organizations will become easier to secure

After the first round of funding is secured, the immediate goal is to build 5-10 market-ready prototypes that can be used for demonstration and research & development purposes. These prototypes will be instrumental in the success of this project moving forward. The initial cost(s) of development and design will be high initially because of the necessary steps to procure a perfect working model that performs at optimal efficiency. Once the first market-ready prototypes are completed, additional units will be made at an affordable price that is attractive to any customer base.

As a marketing strategy that will attract much attention, a nationwide tour will be organized as a catalyst that will provide prospective customers and investors excitement with a first-hand look at this groundbreaking technology. This will allow several options to become available and open additional opportunities to secure multiple funding streams. The initial outreach and product disclosure via nationwide tour in combination with online use of various crowdfunding sources to raise millions of dollars will be an excellent source of business procurement that provides monetary stability. Once a UL-approved prototype is achieved, news outlets through different media sources will also be contacted to help launch this campaign to generate additional attention. Additionally, government grants will be professionally drafted that specifically target funds for green technology projects that focus on environmental standards.

Total commitment and full disclosure are guaranteed as this amazing project begins to unfold.

## Products and Services

We believe the Ducted Vortex Heating & Cooling System could be the most efficient HVAC system in the world. Being economical, environmentally friendly, using no refrigerants or heating elements, while recycling electricity provides Heating & Cooling solutions moving further into the 21<sup>st</sup> Century. To prove these theories surrounding the Ducted Vortex System's capabilities, we need this critical first round of funding met. We are going to accomplish harnessing the energy from a vortex that is naturally found in the environment, atmosphere, and universe. Utilizing vortices will be considered as a source of energy production for the new generation of green energy technological advancements in engineering.

### **Key Market Features:**

- Weighs 2/3 less than conventional heating and cooling HVAC systems
- Will cost less per BTU to heat and cool a home, business, barn, or factory of comparable size
- The total cost per system will be less than conventional HVAC systems
- The Ducted Vortex System will operate at a lower wattage than anything on the current market.

We will verify each of the above claims during Phase 1 of the first round of funding.

## Manufacturing & Supply

*There are very few moving parts in the Ducted Vortex Heating and Cooling System. Initially, the main components will be outsourced to professional organizations in the USA. It is our goal to have a research & development division and manufacturer each component in-house along an assembly line of sort in the facility. Each part will be designed and engineered specifically to meet optimal performance needs and measurements. High-end 3-D printers will eventually be a common standard within the scope of our manufacturing procedures to produce all parts contained within the Ducted Vortex Systems.*

## Ducted Vortex Maintenance & Service

*The Ducted Vortex System is designed in a simpler fashion with a straightforward approach focused on fewer moving parts. Conventional HVAC systems require technicians that often over charge customers for service and installations needs. Many of these service calls could be prevented with systems that are more easily understood with maintenance schedules. Because of the simplicity of the proposed system – Ducted Vortex – customer bases could conduct their own reasonable maintenance to provide sustainability for the system. All Current HVAC technicians could easily be trained to service and install this new technology and expand their business models to include migrating towards and creating entire divisions focused on Ducted Vortex Systems. This addition of business will complement the existing HVAC infrastructures already in place.*

## Management

*Robert Wajda, Inventor and CEO of Ducted Vortex, Inc. has worked in the manufacturing industry for more than 25 years.*

*Since this is a ground floor endeavor, current management is limited to corporate officers and Ducted Vortex, Inc. is seeking to build a dedicated team of specific highly motivated and qualified individuals that understand(s) the dedication it takes to move a newly formed company into the future.*

*Not only is Ducted Vortex, Inc. a startup company, but also an enterprise that is offering a newfound fully patented HVAC technology that could change the way people live and work. There are prospective candidates already in place to complete Phase 1 & 2 of this project. The collaborating engineers – mechanical & electrical – as well as videographers that will work on this project during these initial phases will be paid contract workers. We want to attract the best professionals in their field to secure the best outcomes for thinking outside-of-the-box mentalities and non-groupthink creativity. All information, data, and research & development obtained will be considered proprietary and used solely by management to disclose facets of the project publicly as it progresses.*

# Investor Relations

Ducted Vortex, Inc. is offering up to 20% in company equity for an initial investment of up to \$1 million. Funds sought will not exceed 20% of company equity distribution. Our company is seeking an individual sole investor that will work with us directly through all three phases of development and product manufacture. However, we will not rule out multiple investors for different phases of development for different stakes of equity share within the company. Specific tasks must be accomplished and completed to have a successful exit strategy for the investor and see through that Ducted Vortex, Inc. is moving further into the future with progressive incremental steps.

## The Deal – Equity Based Agreement

### **Round 1 Funding - \$1,000,000 or 20% company equity**

First round of funding will allow an investor(s) up to a total of \$1,000,000 for a 20% stake of Ducted Vortex, Inc. Round 1 will include 3 phases with a minimum investment of \$150,000 for Phase 1 product advancement to begin development into the systems next outlined goals. Phase 1 will take 6 months to 1 1/2 years to complete. Ducted Vortex, Inc.'s goal is to keep as much equity available so additional rounds of company share based funding are available for potential future investors. Once Phase 1 funds have been obtained, we can start the development process and secure the necessary measures for the full advancement of this innovation moving forward. Vortex energy is a modern area of green energy application that is ecologically clean with no environment pollution.

### **Phase 1 – \$150,000**

Phase 1 funds will be used to perfect the design and configuration of the proposed system. This will be accomplished by contracting specialized engineers to run extensive tests concentrated on mechanical engineering, fluid dynamics, and electrical schematics. The engineering completed in this phase will give us a detailed look into computer simulation models and results that will include energy input versus output in various environments, hot and cold thermal temperature readings, correct internal part(s) placement for optimal energy savings, and a complete electrical diagram with schematics. This phase will produce CAD files and CAE aided simulation for precise results founded in real time scenarios. In addition, we will build the fifth prototype (DV-5).

Understanding how turbulent airflow and liquid move through, in, and around this innovation is key to its success. This is a very exciting time for aerodynamic and fluid mechanics rapid prototyping. Today's Aerodynamics Analysis software (CFD) allows us to save hundreds of thousands of dollars in trial-and-error prototyping that would otherwise take years by the ability to rapidly simulate scenarios in real time. This allows development and production times constraints to be dramatically reduced. This prototype will have an all 3-D printed interior and be the first prototype we have developed that has an aluminum exterior casing.

This phase will also include a detailed explainer video on the workings of how the fluid dynamics of the project make this act of engineering unique to anything on the current market. The presentation video will always include how the system will work in residential and commercial applications.

By the end of phase 1 funding, we will have a full project presentation with statistics and data depicting exactly how the Ducted Vortex System will work in comparison to anything seen in the current HVAC marketplace and thermal measurement schemes. In addition, we will have our latest prototype to date completed which will be very close to the market-ready version. It will no longer serve as a "proof-of-concept" prototype and have standard controls that are easy for consumers to control. It will be aesthetically pleasing that of a futuristic unit and, this phase will detail expectations on market ready performance with much needed development transpiring along the timeline process.

This is a crucial step and is critical to the foundation of the entire project moving forward. The funds used in phase 1 will keep the company moving forward for 1-1.5 years.



### **Phase 2- \$350,000**

Once the market-ready configuration of the system is tested and tried, several prototypes with an eye appealing aesthetic design will begin to be developed with features in the works that will meet the needs of the new age consumer.

Each external casing part will be custom-made from lightweight polished aluminum. The tooling for each of these parts will initially be the costliest. Once everything is perfected, multiple units will be produced at a low cost.

This phase of development will encompass the complete advanced electrical system of the Ducted Vortex System. We expect the electrical system development to be in the \$100,000+ range by itself. Even though the Ducted Vortex System has simplified the heating and cooling process, it still needs custom advanced electronics that specifically control its efficiency. The main goal of phase 2 will be to have a finished market-ready version completed that will pass all UL inspections and specifications. A UL-approved prototype will enhance the opportunity for allowing pre-orders to be conducted, raising additional capital to further secure the success of Ducted Vortex, Inc. The funds secured in phase 2 will keep the company moving forward for an additional for about 2 years.

Also in phase 2, mockups of the commercial units for factories, warehouses, and barns will begin to take shape and form. After Phase 2 is complete, company plans are to showcase the Ducted Vortex System with presentations on a nationwide tour displaying this newfound technology and its benefits and advancements for society at large. We anticipate setting up professional home and patio booths in many states across the country. We will also begin to solicit new construction home builders concerning our residential and commercial systems. Our vision is to have a clear room made of glass with a clear divide between each room. A clear door on both sides will be installed allowing the person to walk into each part of the room divide. One side will feel cold, and the other side will have the hot output. Power input usage and energy output will be on display where everyone can see the data and parameters. We will have it set up as to where independent electrical professionals can use their own equipment to take power consumption measurements. We can possibly take orders for numerous units and get national attention in this fashion through newspaper article disclosure.

Big screen televisions playing on a loop will show the crowds of people a full video presentation and important explainer videos on how the future residential systems will work and the positive implications of instituting such a new and profound green technology. The presentation will include how the Ducted Vortex System can be scaled up to essentially any size to heat and cool a wide range of indoor areas, large warehouses and barns - the current HVAC industry has not been able to do so efficiently.

### **Phase 3 - \$500,000**

\$1,000,000 is ultimately the goal to really get this project developed and moving in the marketplace by year three from the initial start of seeking funds. As mentioned above \$500,000 is the absolute minimum we can pull off a near market ready version. Anyone in business knows that anything new typically costs 2-3 times as much and takes a considerable amount of time. An additional \$500,000 will cover everything we need to complete the 3-year plan and get us ready for the Round 2 funding of \$10,000,000.

We have a three-phase tier-based investor funding approach in which milestones can be accomplished with limited risk. Phase three is to raise a total of \$1,000,000 for operating expenses and product development for the first three years.

**Note:** Please note that we do not need the full \$1,000,000 to start this process. We only need the minimum Phase 1 \$150,000 to get this process started. We can raise the rest of the capital anytime during the first 1 1/2 years of the project. This is a 3-year development project with 3 total phases of funding. It is our intentions to limit the risk for the investor and the company.

### **Managed Risk**

Ducted Vortex, Inc. is offering up to 20% of the company equity for a \$1,000,000 investment. The investor has the option to purchase all 20% of equity shares offered from the beginning or start with phase 1 - for a minimal risk of \$150,000. This is an optional approach for the investor, as we are giving you the opportunity to choose your risk level and cannot start the process without the minimal amount.

**Cap Amount:** Only 20% of company equity is available from Round 1, and the entire 20% of Ducted Vortex, Inc can be obtained for a \$1,000,000 investment.

Each 1% of company equity equates to \$50,000. No more than 20% will be offered initially. The minimum amount is 1.5% or \$150,000.

Example: If you believed in this project and wanted a 10% equity stake in this company from the start, it would cost -  $10 \times \$50,000 = \$500,000$ . If you like what we have to offer, but want to take a minimal risk, the investment would be \$150,000 or a 3% equity stake.

No investor will be able to receive any of their investment back until 3 years have matured from the beginning of their investment installment. Each investor will receive a quarterly newsletter on the progress of the Ducted Vortex System.

### **Round 2 Funding**

After 3 years of development, we should have an enormous amount accomplished which will include everything needed to take the window/wall units mainstream across the country. We want to complete most of the manufacturing in-house and create many new jobs in the sector. In order to accomplish this, we will seek a \$10,000,000 million dollar funding round. Shares of this round will be adjusted to the return of the initial shares sold so that any investor that wants an exit on the beginning of the second round can do so at this time.

### **Round 3 – IPO**

Ducted Vortex, Inc. is looking towards the future with an IPO the goal of this entire project. We want to create a completely new industry where the initial investors can compound their initial investment and shareholders are a central focus with company stability in mind.

## **Exit & Safety Clause**

There are several possible exits for the investor after three years has transpired. We are confident that the Ducted Vortex System will be one of the most efficient systems in the world based on preliminary tests and research. Our intention is to have an initial public offering after two rounds of funding and create a ground floor manufacturing company in Jacksonville, Florida. Our goal for investors is to go public between year 4-5, however, there will be several ways for the investor to exit.

**Exit 1:** 3-year investment of 12.5% per year or 37.5% return.

Initially, there will be the need for a solid three years of development - keep in mind that there will be enormous amounts of progress accomplished only building company and product value.

It is very important to us that each investor feels comfortable and will be assured that every possible step will be taken to ensure each investor gets a full return on their initial investment as laid out. As a safety clause and promise to the investor so that everything is fully disclosed in our business plan moving forward, we feel that comprehensive exit strategies for the investor to choose from – in case product does not come to fruition – are in everyone's best interest.

Ducted Vortex, Inc. future endeavors are to have an IPO offered so build company growth. After three years the initial investor(s) can hold their percentage of equity or decide to liquidate and exit business relations with our company. The first round of funding will only include up to \$1,000,000. The second round of funding will have an asking amount of \$10,000,000 with an adjusted share price.

We will give each initial investor the opportunity to exit with a 37.5% ROI on year three. The new share price will also be 37.5% higher than it is for the Round 2 \$10,000,000 funding endeavor. In year three of development, there will be an enormous amount progress made and unmatched advancements in Ducted Vortex technology that are currently not found amongst other companies pursuing other alternative forms of heating and cooling needs.

### **Exit 2: The Fail-Safe**

If we get to year three and the project is stalled, Ducted Vortex, Inc. has the option of placing the entire company up for sale with all progress accomplished. This will include placing the patent up for licensing or assignment to pay back all investors first and foremost up to and including the 37.5% return. The intellectual property protection is good for 20 years and we will have a clear vision of where the company is heading after the first three years of development. We feel that the company will not ever have to explore this option, but also must disclose that this option is one that we will take to ensure the investor receives their initial investment back.

This clause describes where the inventor is willing to give up everything to pay ground floor investors back first. This is the worst-case scenario, but important to disclose and have a plan of action in place. The fail-safe also tries

### **Exit 3: The IPO**

Over the next several years each investor will have first-hand knowledge of directly where the company is heading – through quarterly newsletter and company website. The third possible exit strategy is for the investor to hold all their shares and wait for the intended IPO. This will be the most profitable approach and could happen between years 4 and 5.

We are very excited about the potential and capability of this project, and what it holds financially and for the advancement of humanity into the New Age. Every step and precaution necessary will be made to ensure each investor is satisfied with participating in this huge undertaking.

## **Market Segmentation & Competition**

The market for investors in the HVAC industry has always been solid and dependable. Heating and cooling in modern times is no longer considered a luxury, but rather a necessity. The HVAC industry has seen margins steadily increase each year for decades. The HVAC industry could expand at an annual growth rate of approximately 6% based on past growth in the HVAC industry. The HVAC industry could reach a market share of more than 132 billion US dollars on a global scale in the soon to near future.

The commercialization approach to this product can provide the means to enter the marketplace with a superior and competing energy-efficient product. The economic and environmental benefits associated with the Ducted Vortex System will be substantial. Once developed, it will be possible to raise millions in revenue with entry-level prototypes focused on window/wall units and residential/commercial systems.

We believe the market share for window/wall units will be substantial. It is with expectation that the market growth for new and old residential homes, commercial buildings, and large industrial warehouses will be enormous once all benefits have drawn to a conclusion surrounding a perfected Ducted Vortex System. There is currently no easy and affordable way in the traditional HVAC model to heat and cool a large factory warehouse without substantial expenses involved for the subscribing company.

## **Funding Goals & Milestones**

### **Overview of Funding Goals**

There are many objectives that will take place the moment funding is secured. Below is a list of some of the things that are on deck for product implementation:

1) Apply For Additional Patent Applications – During the development of all current and future prototypes, additional discoveries will be documented. It is our intention to file patent applications for these additional discoveries as they continue to unfold during the Research & Development process of the Ducted Vortex System. Funds will also be used for USPTO office actions, fees, and additional patent related expenditures.

2) Finalized Prototype DV-5 For Live Presentation – Each new prototype brings a market-ready version closer to reality. A goal is to produce several working prototypes as conceived in the explainer video above. These prototypes will include the advanced rotating spin chamber, a working automatic heat pump exchanger, and computerized electronics that will operate the climate control for an optimal internal vortex. These prototypes will take a tour around the United States displaying live presentations to bring awareness. We will complete

several phases simultaneously by creating state of the art fluid mechanics presentations in 3-D ran by CFD software which will be able to test the unit in simulated environments before any part is ever created.

3) Hire Professional Grant Writers – The Ducted Vortex System is green net-zero compliant technology. It is eligible grant money that is focused on environmentally friendly innovations. It is our intent to hire a professional grant writer to seek all available funds and offers. Ducted Vortex, Inc. is currently registered with the US Government.

4) Open A New Facility – A proper facility that will allow growth to the next level of development is essential for future progress.

Future Visualization -With the purchase of new equipment, additional space is needed. It is our intentions to upgrade facilities immediately after the first round of funding has been secured.

5) Purchase 3-D Printing Equipment for Rapid Prototyping – Rapid prototyping is critical in the speedy growth of any innovative manufacturing endeavor. Advanced 3-D printers will perfect the output of our CAD, CAE, & CFD models to advance this technology at an incredible rate.

6) Hire Several Key Engineers Assigned to Specific Tasks – We need to contract at least three engineers for specific tasks. Fluid dynamics, electrical, and mechanical engineers proficient in CAD, CAE, and CFD software.

7) Perfect The Rotating Spin Chamber – The Rotating Spin Chamber is one of the key elements to the success of this project. The next prototype (DV-5) will have computerized electronics and a magnetic levitating bearing system that contributes to the rotating spin chamber's main function and design.

8) Noise Reduction – Several manufacturers can already make quiet ducted fans within our specifications. These fans will be unique and smaller than anything on the market because of the specific application they will be used for.

9) Professional Explainer Videos – With new groundbreaking technology, it is very important to have professional explainer videos that can relay a message visually to the public. Already on our team is one of the best 3D Video animation freelancers in the world along as well as a seasoned graphic designer that specializes in digital imaging.

10) Implement The Heat Pump Exchanger – The Heat Pump Exchanger reverses the hot and cold air to the front and back of the unit. It will be specifically designed and custom to meet the needs of the Ducted Vortex System. Sophisticated electronics will control the flow of air throughout the unit by the push of a button with desired settings in place for temperature needs.

11) Materials – Various projects and customer bases may require alternate materials for their system to function at optimal performance in differing environments. The goal is to find lightweight, solid, and dependable materials to manufacture parts that meet customers' needs in each scenario.

12) Complete A Market-Ready Prototype for UL Inspection – The expectation is to have a completed market-ready prototype available for testing during the first round of funding.

### **Milestones**

The Ducted Vortex System has reached significant milestones since the very conception of its idea and early development. Its has been proved that with each step moving forward the proposed system becomes more of a reality to showcase green technology advancement in the HVAC sector. The Broad impacts of this innovation would be far reaching. It would begin to ease the strain on the power grids across the United States once these systems begin to be implemented regularly in consumers everyday life.

The Intellectual Merit of The Ducted Vortex System would open discussions on reanalyzing innovation in other sectors that are in need for huge overhauls moving into this New Age of humanity. A Key differentiator that separates this technology from others that are competing to revamp the HVAC sector is based on the notion of letting phenomena found in nature do all the hard work. This Ducted Vortex System is designed to be very simple with the average person being able to understand exactly how it functions once basic concepts are shown and explained visually.

Not only is this a unique green energy endeavor, but it is also an opportunity to build upon an existing industry and work in conjunction with providing people opportunities of moving into the future. This project will ultimately create new jobs within and all over the United States to help facilitate impacts that are unforeseen in countless positive directions. Industry milestones such of these have always had tremendous outcomes when concerning transitioning the way that people live and work economically and environmentally.