



# Ducted Vortex, Inc.

## Heating and Cooling System of the Future

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To: Angel Investors

### PITCH DECK – ANGEL INVESTOR

#### OUR STORY

We are pleased to announce a breakthrough in heating and air-conditioning technology that creates on-demand hot and freezing air by circulating ambient air into a vortex that separates high and low air pressure streams. The patent (Pat. 11499760) for this novel innovation was granted on November 15, 2022. This project has been years in the making, and with funding, it is believed that this innovation can create the most efficient hot and cold airflow with the least amount of power consumption in the world.



Prototype DV-4 - Standard Window/Wall Unit

#### 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 a real-world impact on the environment directed toward changing the current HVAC technology.

The novelty of the outlined details an innovation that produces hot and freezing 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 heating and air conditioning units' energy ratings.

The proposed innovation, weighing 2/3 less than conventional HVAC systems, can be an economically more intelligent solution for consumers leading into the future. A fully operating standard heating and cooling system, such as the window air-conditioner described in this proposal, will only function at around 200 watts. By accomplishing this, it would allow the innovation to be one of the most eco-friendly systems available on the 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 innovation outlines concepts for a novel system with a near frictionless spin chamber that spins a self-contained interior vortex in one direction. In contrast, the spin chamber itself rotates mechanically in the opposite direction. Once energy efficiency has desired effects on the system's power consumption, the market appeal will become more realistic.

The Value Proposition of the Ducted Vortex Heating and Cooling System spans all social and economic statuses. Inexpensive indoor quality heating and cooling will become possible due to the cost-effective nature of the presented engineering feat's creative design and structured layout. Consumers' critical benefits would be cost-effectiveness, energy-saving probabilities, efficiency, practical use, and reasonable maintenance with sustainability.

An eco-friendly solution in combination with optimal heating and cooling will create new trains of thought for contributing to and pursuing the goal of net zero. The Key Differentiators that this proposal claims are distinct novel approaches and design techniques that could provide USA Societal Value by pivoting away from traditional non-economic HVAC systems. American Ingenuity brought forth with the innovation will also coincide with American Manufacturing and Job Creation.

The Ducted Vortex system will venture into an exciting arena of creative development and design with research pointing toward energy-efficient utility applications that could change how we live and work.

This innovation is truly a unique project created in and of itself with forethought that is the cornerstone of another chapter of energy conservation. Not only is this system an alternative source for heating and cooling, but it is also a potential market disruptor that will challenge the HVAC industry and highlight technology concepts that are fifty years ahead of time. With proper funding a novel innovation will begin to take pronounced form in an organized fashion.

## **CURRENT STANDARD**

The issue with the HVAC sector today is 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 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 are still polluting the environment with harmful contaminants that are slowly weakening the earth's atmosphere.

The intention of this innovation is to introduce a new and simple concept that could very well be an alternative form of heating and cooling moving into the future and complement the current HVAC industry. The Ducted Vortex System can potentially provide much-needed relief to our strained power grids across the United States.

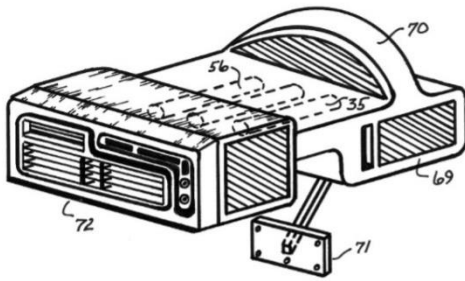
## **THE SOLUTION**

Our mission is to generate sustainable renewable energy by protecting the environment through creative engineering. To advance to the next stage of scientific progression, funding is needed to produce working prototypes that will intrigue investors and consumers alike.

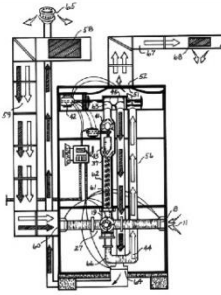
We believe that the Ducted Vortex Heating & Cooling System could be the most efficient, lightest, environmentally friendly, and cost-effective heating and cooling solution in the world. Funding for a market-ready version is necessary to advance this innovation forward or completely rule it out as a viable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

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.

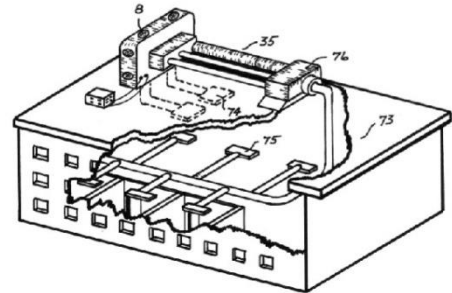
## **FUTURE APPLICATIONS**



**Window/Wall**

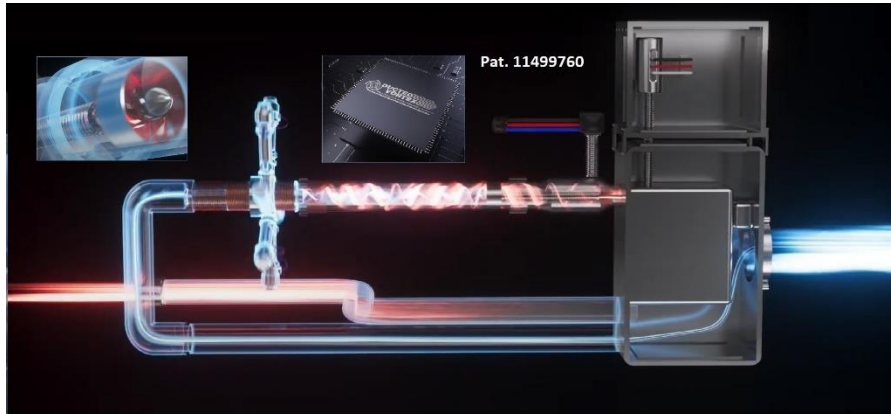


**Residential HVAC**



**Commercial Warehouse**

Initially, we are starting with the window/wall unit assembly because it is the least expensive to perfect and most easily understood. Please watch the explainer video on the main page of DuctedVortex.com or click the following QR code to see how this device works and what a market-ready version can achieve.



## **SAFETY COMPLIANCE**

As with any new product that enters the marketplace, safety compliance is at the forefront for US consumers. The UL stamp of approval is the goal, and it is imperative the system is designed to meet all electrical compliance standards.

Solution: Safety measures are essential in a product being introduced into the marketplace. UL's extensive safety requirements will be met in accordance with regulations. This will be accomplished by hiring an electrical engineer that is skilled in the field of electrical engineering. We expect to have an advanced electrical schematic diagram with a perfect design that passes all UL safety standards and compliance. Since the main holdup of UL approval is in the inferred remote control and we are only controlling functions and speeds, we will use an already UL-approved remote to control the operating system until the future model(s) are perfect.

## **ENERGY CONSUMPTION**

The goal is to demonstrate a 6,000 BTU entry-level Ducted Vortex heating and cooling system that can operate from an energy consumption of less than  $\frac{1}{2}$  of anything that is existing on the market without using any fossil fuels or refrigerants. This is a daunting task, and we are confident our market-ready product will demonstrate efficiency levels in the 200W to 300W range, which is a realistic goal. There are international competitions with substantial rewards for inventors or companies that can achieve these results. It is our intention to exceed all expectations as outlined in this proposal. Our goal is 200W or less.

Solution: This will be accomplished and documented by perfecting all the parts that make the system operate in an advanced computer simulation that confirms energy consumption at full operation. We will also have a documented electrical schematic of how the entire system works.

**MARKET VALIDATION** - The business model is to demonstrate market capability by providing a working prototype presented in real time. The validation of a market-ready prototype's potential will sell itself once introduced to the public. Since the invention will be scalable, it can be presented as a future product in compact form to potential customers. The key selling points will include cost-effectiveness, energy-saving probabilities, efficiency, practical use, reasonable maintenance, and sustainability. Aesthetically, the system will appear futuristic and pleasing to the eye, attracting marketplace value.

### **COMMERCIALIZATION APPROACH**

The commercialization approach can provide the means to enter the marketplace with a superior energy-efficient product. Once concepts are proven, the economic benefits associated with this innovation will be substantial.

Once developed, it is possible to raise millions in revenue with an entry-level working prototype. Offering the product in a creative crowdfunding platform allows the company not to be diluted early in the development phase and to maintain the company's market share. Once the project is funded and a commercially efficient entry-level prototype is working, the expectation is to claim all additional funding opportunities available during the various phases of the project.

### **BUSINESS ECONOMICS AND MARKET SHARE**

The market for the HVAC industry has always been solid, and heating and cooling in modern times are no longer considered a commodity but rather a necessity. The HVAC industry has seen margins steadily increase each year for decades. The air-conditioning industry could expand at an annual growth rate of approximately 6 percent based on past growth in the HVAC industry. Also, the HVAC industry could reach a market share of more than 132 billion United States dollars on a global scale.

### **NOISE REDUCTION WITH MOISTURE AND WEATHER STUDIES**

We have taken drastic steps in the pre-design phase to eliminate unnecessary operating noise. We are already removing as much friction as possible in all parts to increase efficiency. This reduction in friction will lead directly to a reduction in noise. This will be accomplished with decibel level testing and noise reduction tests and methods. Further, we expect to conduct extensive virtual and field moisture and weather studies. Testing needs to be investigated in different environments (i.e., 110 degrees vs 30 degrees, humid air vs dry air). This can be accomplished by demonstrating various computer simulations based on various environment scenarios, then transferring the results to metal 3-D printing. By using

polished aluminum for most parts and the inlet tubes being approximately 1" in diameter, it will eliminate noise to a standard level.

## **INVESTOR BENEFITS**

We are in the pre-seed stages of a new environmentally friendly startup company. Our company and product show early promise as it is unique, and novel, and the patent protection is secured for 20 years. We have a variety of investor benefits which include equity share or business loan options, an anti-dilution clause, an investor safeguard strategy, and a strategic exit plan.

## **SUSTAINABILITY PLAN**

All solid innovations should have long-term sustainability plans that lay out a detailed vision of the project goals. The plan for moving forward with The Ducted Vortex System is to strategize and develop a well-organized business endeavor. As you look through every part of this project, it is incredibly detailed and professionally organized. It is our intention to secure the first round of funding from a combination of angel investors and philanthropists, nationally and locally, that support environmentally friendly projects focused on renewable energy and innovative engineering that can change the world.

Small incremental steps can be made by such innovations moving into the future by starting the trend to accomplish the goal of a net-zero carbon footprint made by humanity in the HVAC sector.

After the first round of funding is secured, the immediate goal is to build out 5-10 market-ready prototypes. These prototypes will be instrumental in the success of this project. The initial cost(s) of development and manufacturing will be the most expensive because of the necessary steps to procure a perfect working model. However, once the first market-ready prototypes are completed, additional units will be made at an affordable price that is attractive to any customer base.

When working prototypes are functioning at full capacity, a nationwide tour giving potential customers and investors a first-hand look at this groundbreaking technology will be a main focal point. This will allow several options to become available, including an initial outreach to use crowdfunding sources to raise millions of dollars. This will become an easier effort with market-ready versions on full display to use on a USA tour as catalysts for investor and consumer excitement.

The news media, through television or newspaper disclosure, to launch this campaign will also be a valuable resource to generate additional attraction to such a well-rounded and innovative project. Once the first units are produced applications for government grants will be professionally drafted that specifically target funds for environmental green technology projects.

A UL-approved prototype will be the goal, allowing pre-orders to be conducted to raise additional capital to move Ducted Vortex, Inc. into the future. We are instilled with confidence that once an initial round

of funding is secured to produce several market-ready prototypes for funding, there will be an unlimited supply of resources available to move this exciting innovation into its first residential, commercial, and industrial applications. Once we reach the goal of the market-ready phase, we will need an additional round of funding. After that, we should be able to sustain future business endeavors without any further funding. Total commitment and full disclosure will be guaranteed as this amazing project is followed through.

## **MESSAGE FROM THE INVENTOR**

Big technology competitions go all the way back to the early 1900s when inventors dedicated their lives to real innovation. We are asking for \$1,000,000 for an opportunity to change the world and the opportunity to relive the early days when innovators such as Edison and Tesla had teams competing for various forms of technological advancement.

Once this project is funded, the commitment is to work around the clock to create the most efficient heating and air-conditioning system in the world. A system that will save lives, a system that is less expensive, and a system that can change the world for the better are the goals of Ducted Vortex, Inc.

**With your help and investment, we can change the world together. Thank you.**

**How to contact, sponsor, request additional, or proposal:**

- 1) Contact us by phone and request additional information at 904-631-8499**
- 2) Contact by E-Mail: [Robert@DuctedVortex.com](mailto:Robert@DuctedVortex.com)**
- 3) Contact by mail at Ducted Vortex, Inc. RE: Robert Wajda, Box 551293, Jacksonville, FL 32255**
- 4) For Inventor information please see the About Robert Wajda**



**This project is exciting and noteworthy to have a positive impact on the environment and the lives of millions of people. We hope your organization can help contribute to this environmentally friendly cause that can change the world. A detailed Pitch Deck can be downloaded on-line.**

**Thank you,**

**Robert Wajda  
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