



## ***Executive Summary from Business Plan***

### **HISTORY**

Freedom Motors (the Company) began development of its revolutionary Rotapower® engine following the acquisition of the entire rotary engine assets of Outboard Marine Corporation (OMC) and General Motors (GMC). Both companies had developed rotary engines based on the Wankel design. After spending an estimated \$1.5 billion these companies found that this unique engine with its many outstanding characteristics had one serious flaw of consuming more fuel than a good four-stroke piston engine. It was determined that this limitation was due to its inherently slow combustion process. Consequently, substantial energy was being lost in the exhaust gases.

### **SOLVING THIS ONE LIMITATION**

Freedom Motors solved this problem in a patent pending design by compounding the engine where exhaust energy was used to supercharge it while also providing power directly to the output shaft. This development along with extensive additional research and testing resulted in the Rotapower® engine having the following attributes:

- *very low noise due to the small amount of acoustical energy remaining in the exhaust (> 95% reduction).*
- *low fuel consumption due to the recovery of normally lost exhaust energy*
- *very high power to weight ratio (over three horsepower per pound)*
- *three moving parts versus over 25 in a comparable four-stroke piston engine*
- *very low toxic emissions due to ability to operate at high air to fuel ratio (50% higher than stoichiometric mixture)*
- *free of vibration*
- *modular design allows additional short blocks to be bolted together as a simple way to create higher power models*
- *documented seal life of over 20,000 hours (ten-fold improvement)*
- *able to burn contaminated biogas, a major contributor to global warming (contaminated biogas destroys a piston engine)*

### **ENGINE STATUS**

Freedom Motors has developed a family of Rotapower® engines ranging from 2.5 to 450 horsepower that have been integrated and demonstrated in a wide variety of applications. Production will take place in two phases. The first phase will produce beta engines to be qualified by original equipment manufacturers (OEMs). This will be followed by volume production requiring approximately one year to accomplish. The Company is uniquely positioned to ramp up production due to the high-volume rotary engine production equipment that it acquired from General Motors.

## MARKET OPPORTUNITIES

The world market for engines in the power range of the Company's various models is over 250 million engines per year. The Company has set the very conservative goal of penetrating 0.05% of the world market by production year five (130,000 engines per year).

The Company has and will continue to create joint venture partnerships to address foreign engine production where the Company can also benefit from parts being produced at a far lower cost than is possible in the US. To date the Company has received letters of intent (LOI) to purchase over 3.5 million engines with the goal of turning many of these LOIs into firm orders by working with OEMs.

**Environmental (methane mitigation) and transportation (ground and air) are the most important immediate markets.**



### Methane (biogas) Mitigation

Many earth scientists believe that methane ( $\text{CH}_4$ ) is a greater threat to global warming than  $\text{CO}_2$ . A molecule of methane (biogas is approximately 50% methane) retains 86 times more heat than a molecule of  $\text{CO}_2$ . Furthermore, atmospheric methane production is increasing 20 times faster than  $\text{CO}_2$ . Rather than releasing or flaring biogas from landfills, wastewater plants and animal manure, the Rotapower® engine can use it to create power. Contamination in biogas by hydrogen sulfide and silica leads to failure of the piston engine.

### Ground Transportation

In much of the world the primary personal transporter is the utility motorscooter/motorcycle. Approximately 75 million fuel power versions are manufactured yearly. The Rotapower® engine is one-third the size and weight of a typical motorscooter/motorcycle engine. With its lower fuel consumption, emissions, noise, vibration and 95% less moving parts, the Rotapower® engine is a logical choice to replace the four-stroke piston engine in this application.





Electric cars are attractive for many reasons, however for potential buyers, range anxiety remains a concern. Consequently, companies like Toyota and Mazda are planning to use a range extender engine to complement electrical power during longer trips. The Rotapower® engine requires the volume of shoe box in this application as contrasted with a four-stroke piston engine the size of a large suitcase.

### **Airborne Transportation**

Future personal transportation envisions a world of Personal Air Vehicles (PAVs). Several designs have now been demonstrated using electric motors primarily because fuel powered engines are too heavy. The lightest aircraft engine weighs approximately one pound per horsepower. The Rotapower® engine weighs less than six ounces per horsepower. A PAV powered by a Rotapower® engine can travel ten times further with three times the payload at four times the speed of a battery powered PAV.



### **FUNDING**

The funds necessary to meet the Company's goal of producing 130,000 engines per year by year five is determined to be \$10 million USD. To create this funding, the Company is offering to sell preferred shares to foreign investors at minimum investment of \$1 Million USD, who have an interest in acquiring a green card through the EB-5 program. These preferred shares will provide a guaranteed yearly dividend and are convertible to common shares after a specified period.

### **RETURN ON INVESTMENT**

Upon meeting the Company's financial projections based on its very modest sales goal, the annual compound rate of return (ROI) at \$2.78 per share price would be 63% (p/e=20). This ROI would result in a 11.6 fold investment appreciation by the end of the fifth year of production.

**Note:** *While the Company is not presently authorized to sell shares in the public market, a modest number of shares from a liquidating partnership are available at a significant discount from the Company's recent public sales at \$1.50 per share.*

#### **Contact Information:**

Headquarters: 1855 N 1st St., Suite B, Dixon, CA 95620

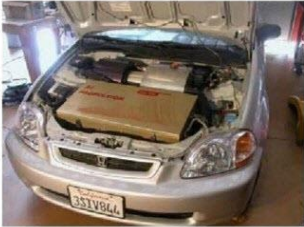
Phone: +1 (530) 760 7177

Email: [fm@freedom-motors.com](mailto:fm@freedom-motors.com)

Informational Video: [Freedom Motors – Sustainable Future](#)

(<https://www.youtube.com/watch?v=M17wyW8tFRE>)

# SOME APPLICATIONS OF THE ROTAPOWER® ENGINE



Hybrid fuel-electric vehicle (530cc)



All Terrain Vehicle - ATV (530cc)



Mini Jet Boat (1060cc)



Trimmer (27cc)



Snowmobile (530cc)



Jetski (1590cc)



Portable Gen-Set (150cc)

## Aviation - Related Applications

Aerobot®



Neuera



Skycar®



Motor Scooter (150cc)