

# *Freedom Motors*



## **Freedom Motors, Inc.**

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# **Executive Summary**

Freedom Motors (the “Company”) has exclusively licensed the worldwide manufacturing and marketing rights to the Rotapower® rotary engine for all applications except aircraft and ducted fans. The Rotapower® engine is based on the Wankel rotary engine design and has a number of unique attributes including extraordinarily high power for its weight and volume, very low emissions, and free of vibration. These characteristics have made it the engine of choice for many applications and resulted in letters of intent (LOI) for nearly 3.5 million engines.

## **BACKGROUND OF THE ROTAPOWER ROTARY ENGINE**

Rotary engines based on the Wankel principle operate with only two moving parts compared to over twenty in a competing 4-stroke piston engine. This lowers cost and greatly improves reliability. The Company was able to acquire the entire rotary engine assets of General Motors (GMC), Infinite Engine Company (IEC) and Outboard Marine Corporation (OMC). GMC had created the machine tools to mass produce rotary engines, while OMC had put a rotary engine into mass production for the recreational market.

Following the acquisition of these rotary engine assets, the Company undertook an extensive engine development program that lengthened the life of the OMC rotary engine design from 500 hours to over 20,000 hours. In the process, the company also:

- Achieved a record horsepower to weight ratio of more than three.
- Created a modular design where power can be increased by simply bolting together additional rotors.
- Achieved toxic emission levels low enough to meet the ultralow emissions standard for vehicles (ULEV).
- Created a number of patentable designs and improvements.

## **ENGINE PRODUCTION PLANS**

The Company has developed a family of Rotapower® rotary engine utilizing six different rotor displacements. Power output ranges from 2.5 to 450 horsepower. Alpha production engines have been integrated and then demonstrated in a wide variety of applications. The Company will produce engines for its home market of America/Europe, while concurrently sub-licensing engine production for foreign applications were due to logistics and low labor costs it could not compete. Domestic production start-up for its own market and sub-licensee production for the foreign market will require approximately twelve months. During this period the Company will undertake a beta production run of four rotor displacement models and distribute engines to original equipment manufacturers (OEM) who have provided LOIs to purchase engines.

## **IMMEDIATE MARKET OPPORTUNITY**

The market for engines with the unique attributes of the Company’s Rotapower® rotary engine is 165 million

engines annually (world market is 250 million engines). The foreign utility motorcycle market alone requires 75 million engines and constitutes a significant portion of the Company's total letters of intent (LOI) to purchase engines. In addition to its well-established market interest as shown by LOIs from fifteen different countries, new opportunities frequently occur. For example, over 40% of the world's natural gas is contaminated by CO<sub>2</sub> and hydrogen sulfide making it unusable without expensive treatment. The details on why the Rotapower® engine is uniquely able to efficiently use sour gas is shown in Appendix D.

Based on LOIs received and close work with Original Equipment Manufacturers (OEM), the Company believes it should easily exceed the goal of 1% penetration of the America/Europe annual engine production of 25 million engines during year 4 after volume production begins. This would result in the sale of 250,000 engines (0.1% of the world market).

The Company has been funded by a LOI provider from Singapore to integrate and demonstrate the value added when their motorcycle has its piston engine replaced by a Rotapower® engine. The results have shown to be profound with the Rotapower® engine occupying one-third the volume and providing three times the power while completely free from vibration. The Company is negotiating sub-license agreements (two and three wheels) in Singapore/China, Malaysia, and Africa. The Company's goal for its sub-licensees is to penetrate 5% of the utility motorcycle market four years after volume production begins.

### **PRODUCTION FUNDING REQUIREMENTS**

The pro-forma financials show that the Company plans to raise \$10 million in equity funding to reach its production objectives. The Company determined that a Regulation A<sup>+</sup> offering of its stock became viable following the recent change in previous Reg A rules allowing unrestricted promotion of stock sales. This eliminated the difficulty of getting an underwriter.

The Company has completed much of the paper work required for a Reg A<sup>+</sup> offering including contracting with a well-known advertising agency to promote the stock sale. To complete this offering, up to \$500,000 in bridge funding may be needed to help cover operating and promotional expenses.

The Company is proposing to raise this capital through either a convertible secured loan or sale of the Company's stock, along with warrants. Conversion price of the loan or warrant price will be discounted from the scheduled Reg A<sup>+</sup> offering price of \$2.50 per share.

### **RETURN ON INVESTMENT**

If the Company meets its five-year financial projections including royalties from sub-license agreements, the compound rate of return (ROI) will be 101% (p/e=15). This assumes the scheduled Reg A<sup>+</sup> offering price is \$2.50 per share and that the bridge funders are able to acquire stock at a 40% discount from the scheduled offering price.

Comparison of Rotapower versus Common Engines

		Displacement	HP	Weight	Volume		Critical Parts
Briggs & Stratton Piston Engine		100cc	2.8	28 lbs.	1.5ft <sup>3</sup>		8
Rotapower Engine		27cc or 54cc equiv.	2.8	4 lbs	.2ft <sup>3</sup>		2

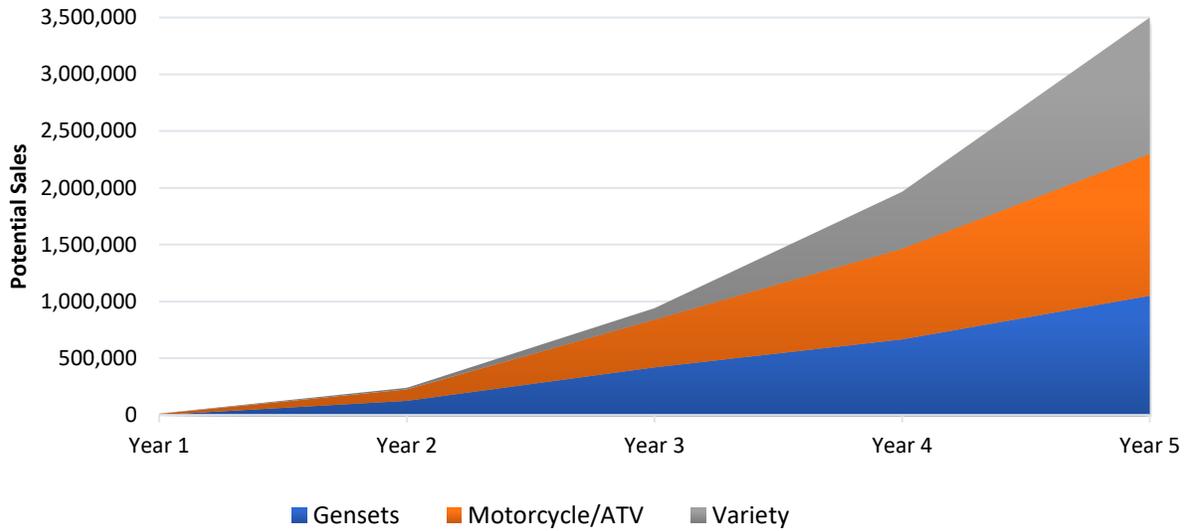
		Displacement	HP	Weight	Volume		Critical Parts
Vanguard Piston Engine		570cc	18	90 lbs.	3ft <sup>3</sup>		15
Rotapower Engine		150cc or 300cc equiv.	18.5	18 lbs	.35ft <sup>3</sup>		2

Kohler CH-1000 Piston Engine		Displacement	HP	Weight	Volume		Critical Parts
		1 liter	40	132 lbs.	4.5 ft <sup>3</sup>		15
Rotapower Engine		530cc or 1060cc equiv.	40	48 bs.	1.1ft <sup>3</sup>		2

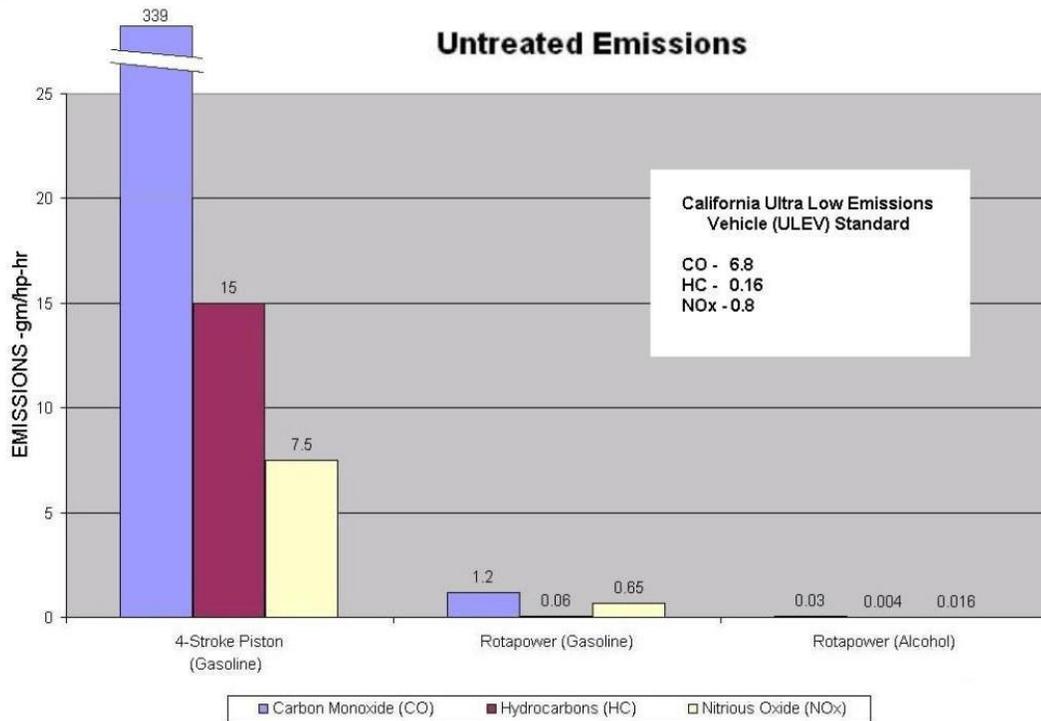
\* Nominal horsepower, higher horsepower available

## Rotapower® Engines by Application

Potential Sales based on Letters of Intent (LOI) to purchase engines



## Untreated Emissions



Piston engine data from EPA Report No. NR-0106.

Rotapower engine data verified by California Air Resources Board (CARB) and Dr. Andrew Burke of the Institute of Transportation Studies (ITS), UC Davis.

# Applications Using Rotapower®:



Hybrid fuel-electric vehicle (530 cc)



All Terrain Vehicle - ATV (530 cc)



Mini-Jet Boat (1060 cc)



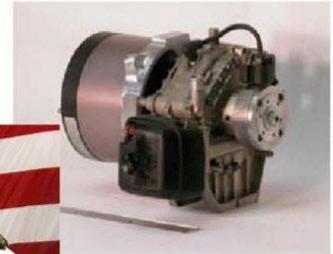
Trimmer (27 cc)



Snowmobile (1590 cc)



Jetski (1590 cc)



Portable Gen-Set (150 cc)

## Aviation - Related Applications

Aerobot



Neuera



Skycar



## Most recent application



Motor Scooter (150cc)