



M. Energy

Executive Summary

The Opportunity

The electric vehicle (EV) market is growing in a rapid pace. More and more companies are introducing electric vehicles that will replace the internal combustion engines.

Electrifying the automotive industry has its limitations:

- The charging infrastructure, mainly in cities, requires multi billion dollar investments
- Many potential users do not have charging infrastructure which limits their ability to use EV
- The range of the EV is determined by the size and weight of the battery – longer range requires more batteries
- The price of an EV is determined by the battery capacity

The industry has been looking at potential solutions, one of them is on board small hydrogen fuel cell that will serve as charger and range extender. Unfortunately, hydrogen infrastructure is limited, storage of hydrogen is extremely challenging and there are safety limitations.

Our groundbreaking technology offers a new approach: a fuel cell that runs on an emerging fuel: DME (Dimethyl Ether). DME is a nontoxic gas; it is available and produced from various sources like natural gas, Methanol or biomass.

Much like LPG (cooking gas), it needs only moderate pressure of 5-7 bars to stay liquid at room temperature and therefore can be easily handled and stored. It can be fueled in every gas station. The technology is covered by an initial patent (PCT) that was filed in August 2017.

Working with the leading renewable energy Lab in Israel, we have developed a proprietary catalyst for the use of DME in fuel cells. This catalyst will be incorporated in a direct DME Fuel Cell.

Our first product will be a 5-7KW DME based fuel cell that will be used as an on board range extender & charger.

In order to achieve this goal in the quickest and most efficient way, we partnered with Ballard – world leader in the fuel cell industry. Jointly we started the development plan of our fuel cell. We plan to present a commercial DME powered fuel cell by mid 2021.

Advantages

- Based on current PEM fuel cell technology, but at lower cost (thinner membrane, less precious metals) can be fueled in every fuel station – same as LPG
- Elimination of the Hydrogen storage limitations, safety and cost
- Battery can be resized in exchange for the module. Batteries will not be cycled at full DOD – so this will extend substantially the batteries life

Investment

M. Energy's business plan requires initial funding in 2 stages. Most of the money will go to Ballard Power Systems for developing our fuel cell (according to the agreement with Ballard).

In the first round (Round A) we are looking to raise 2 million USD. This should be enough to demonstrate a working prototype in 18 months.

In the second round (Round B), After the proof of concept (POC) stage, we will need another 3.5 Million USD (and 12 months) for having the first commercial model working, and getting from Ballard the blueprints for establishing our own fuel cell factory.

Projected sales/profits

The market for electric vehicles is growing exponentially. M. Energy's business plan assumes that it will sell about \$150 million in the first 5 years after completing the fuel cell factory, with EBIDTA of \$30-40 million.

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