



## MICHIGAN ECONOMIC DEVELOPMENT CORPORATION

# MEMORANDUM

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**Date:** March 16, 2010

**To:** Michigan Economic Growth Authority

**From:** Amy Deprez, Manager  
Packaging Team

Joshua Hundt, Project Specialist  
Packaging Team

**Subject:** Briefing Memo – fortu PowerCell  
High-Technology MEGA Credit  
Section 434(5) Battery Cell Manufacturing Credit

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#### COMPANY NAME

fortu PowerCell  
2750 Sand Hill Road  
Menlo Park, California 94025

#### HISTORY OF COMPANY

fortu PowerCell was founded in 2007 and is a subsidiary of fortu Holding AG, which was founded in Germany in 1989. The company was formed for the purpose of the research and development of rechargeable batteries.

In 1995 the company's founder published a theoretical work that was the blueprint for rechargeable lithium batteries. The company has used their strength in research to create a large base of proprietary information behind its technologies.

Beginning in 2005 the company began to further seek financial investment in order to transition its technology from Research and Development to commercialization.

fortu PowerCell currently does not have any operations in Michigan.

#### PROJECT DESCRIPTION

fortu PowerCell plans to build an integrated cell manufacturing plant in Muskegon Township, Muskegon County. Phase one will have a capacity of 250 MWh per year and phase two will have a capacity of 2,500 MWh per year. Phase one is expected to be complete in 2012 with phase two completed eighteen months later.

In total fortu PowerCell plans to invest approximately \$623 million and create 726 jobs over the next five years as a result of this project. In Phase I, the project is expected to create 126 new jobs with the potential for 600 additional jobs for Phase II of this project. The average weekly wage for the newly created jobs will be \$742. The company also offers healthcare benefits, and plans to pay a portion of the benefit cost.

The effect on other Michigan businesses in the same industry was taken into consideration when recommending the amount and length of this tax credit.

## **HIGH-TECHNOLOGY MEGA TAX CREDIT**

### **BENEFIT TO STATE**

According to the economic analysis done by the Michigan Economic Development Corporation utilizing Regional Economic Models, Inc. software, it is estimated that this facility will generate a total of 1,971 jobs in the state by the year 2021. Total state government revenues through the year 2021, net of MEGA costs, would be increased by \$69.7 million (current dollars) due to the presence of this facility.

### **BUSINESS CASE**

If not for the battery cell manufacturing credit and MEGA high-technology tax credit fortu PowerCell would not plan to open a battery manufacturing facility in North America. From an operational standpoint it would be simpler for the company to build its first large-scale manufacturing plant near its current facilities in Switzerland or Germany.

### **OTHER STATE AND LOCAL ASSISTANCE**

Muskegon Township is supportive of this project and is expected to approve a property tax abatement under PA 198 of 1974 and/or PA 328 of 1998 for four years.

### **QUALIFYING HIGH-TECHNOLOGY ACTIVITY**

The company is a qualified high-technology business, whose primary business activity is Advanced Vehicles Technology, as defined in the Act.

The company has certified that at least 10 percent of its total operating expenses are related to research and development.

## **BATTERY CELL MANUFACTURING CREDIT**

MCL 208.1434(5) (aka - Michigan's Advanced Battery Credits) was amended under PA 240 of 2009 to add an additional battery cell manufacturing credit, which offers a tax credit equal to 50% of the capital investment of expenses for construction of an integrated cell manufacturing facility that includes anode and cathode manufacturing and cell assembly. The credit shall not exceed \$25 million per year for no more than 4 years. The maximum value of the credit is limited to \$100 million.

The fortu PowerCell project was competitively reviewed by a panel consisting of the following individuals:

- Paul Skalny, Director: National Automotive Center US Army Tank Automotive Research Development & Engineering;
- Dr. Ray Boeman, Director: Transportation Program, Oakridge National Laboratory; and
- Doug Parks, Michigan Economic Development Corporation: Senior Vice President of New Markets

The panel reviewed fortu PowerCell's proposal utilizing the grading criteria that was approved by the MEGA Board March 17, 2009.

## **REVIEW PANEL DESCRIPTION OF TECHNOLOGY**

fortu's technology is characterized by its high energy per unit of weight, long operational life and avoidance of environmental concerns relative to its manufacture and disposal. The cells consist of lithium cobalt dioxide cathode, graphite anode and an inorganic electrolyte, the latter of which the company attributes to its high-energy, long-life properties. The company identified several potential market areas, including, but not limited to battery backup systems for cellular phone transmitters and/or power-generation plants, fork lift trucks, and niche recreational vehicles. fortu has operations in Germany in a Bayer-owned chemical park, and has identified Bayer CropScience's Muskegon park as their preferred base of operations.

The company has developed a proprietary, inorganic electrolyte which it will produce in-house, and is the primary driver of its high safety design. The electrolyte is not prone to thermal runaway and its use allows fortu to manufacture larger, thicker electrodes than its competition which are easier and less costly to make. These two factors establish a pathway for fortu to develop safe, high-energy density cells at a fraction of current cost using a high-throughput manufacturing process. The review team was most impressed with the company's research and development of the cells, as well as the care with which the product is being brought to market.

Solving the safety issues that are inherent with organically based electrolyte, while still delivering performance and life that meet or exceed customer expectations at significantly reduced prices, make this a potentially game changing technology. There will be broad based market opportunities if the company executes as planned.

## **RECOMMENDATION**

### **High-Technology MEGA Credit**

Based on the factors described above, the Michigan Economic Development Corporation recommends a 100 percent high-technology employment tax credit for 10 years for up to 726 net new employees in excess of the company's established base of 0.

### **Battery Cell Manufacturing MBT Credit**

The review panel highly recommends the fortu PowerCell project based on the factors described above when compared with the six other applications reviewed. It is recommended that fortu PowerCell receive a Battery Cell Manufacturing Credit in an amount of \$100 million not to exceed \$25 million per year for 4 years subject to the following:

- The credit shall not be claimed prior to a tax year beginning 2012; and
- The company must create 300 jobs related to the project to be eligible for the credit.