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US Fuel Cell Council

# Fuel Cells for Portable Power: Markets, Manufacture and Cost

Fact Sheet

**Study Objectives:** Identify markets for portable fuel cells, identify critical success factors for portable fuel cells, and measure market potential

**Significant Findings:**

- Even a conservative forecast estimates a $2 billion market in handheld fuel cells by 2011
- The achieved energy density advantage of fuel cells vs. batteries will be the most important driver of fuel cell penetration
- Prices higher than today's batteries should not block market entry for fuel cells

**Conservative Forecast:**

- 19 million fuel cell units shipped in 2006, increasing to 105 million units shipped in 2011
- Fuel cell penetration of 6% into worldwide premium battery market by 2007
- $500 million annual fuel cell sales in 2006, increasing to $2 billion in 2011
- Based on hypothetical fuel cell specifications and device OEM interviews

**Aggressive Forecast:**

- 11 million fuel cell units shipped in 2004, increasing to 644 million units shipped in 2009
- Fuel cell penetration as high as 70% into worldwide premium battery market by 2007
- Assumed fuel cell pricing targets vs. forecasted Li Ion battery pricing; resulting penetration is based on device category adoption rate history

**Comments from OEMs Participating in Study:**

- Majority indicated battery performance is limiting device designs now
- Majority indicated 2004 as a likely 1st-year of fuel cell introduction, but wider use by 2006
- Fuel cells should not be larger than batteries and should provide 50% or more runtime advantage
- OEMs are more sensitive to runtime and size than fuel cell system pricing

## Full Study Available at: www.usfcc.com/download_a_file/index.html