

## Planar Energy Devices, Inc.

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### ◆Company Profile

Planar Energy has developed a fundamental platform technology that is enabling major advances in the manufacture and design of solid-state, rechargeable, lithium battery cells. The technology platform allows Planar to deliver vacuum deposition quality films and materials at the cost of printed organic materials. Planar has already demonstrated the ability to utilize a wide range of chemistries to fabricate true solid-state secondary lithium battery cells ranging in charge size from 1 Ah (“amp-hour”) to 20 Ah, with performance characteristics far exceeding those available from traditional liquid cells. Industries where Planar’s technology and intellectual property will have disruptive impacts include energy storage for consumer electronics and automotive applications, electrochromic glass, and solar cells, and has the potential for application in other industries as well.

### ◆Main Technologies, Products, Services

Planar Energy rechargeable cells have substantially lower material costs, lower manufacturing equipment costs, and offer higher performance than offered by any of our competitors. The process employs high volume manufacturing, eliminates the slow “formation” step in the manufacturing of cells, and uses no vacuum deposition.

### ◆ Product Information

Product Name	Description
Planar Blue Series Cells	High energy density, solid-state, rechargeable lithium metal cells; consisting of a composite LiCoO <sub>2</sub> x cathode with integrated, inorganic, solid-state electrolyte material and a metallic lithium anode. Performance specs: 1,000 Wh/l; \$250/kWh.

### ◆Major Clients / Any Awards / Achievements

Planar Energy is currently sampling cells with a wide variety of global electronics, automotive and integrated industrial companies. Planar is not allowed to divulge the names of these companies due to NDA restrictions. Fortune 500 companies Planar is working with under NDA can be categorized as follows:

- Global, Tier 1 smart-phone manufacturers: 2
- Global Tier 1 automotive manufacturers: 1
- Top Tier equipment manufacturer for SPEED production lines: 1
- Global specialty chemical companies: 3
- Global diversified manufacturing companies: 4
- Global Japanese trading houses: 1

Included on the list are 6 Japanese Companies.

### ◆Type of Ideal Business Arrangement / Contract /Partner Sought

Planar Energy is seeking the following types of partners and arrangements from Japanese Partners.

- 1) Manufacturing expertise. Planar is seeking a partner or partners who can rapidly scale Planar’s manufacturing technology. Planar intends to build a small scale manufacturing plant in the US and then partner with companies with global scale manufacturing expertise and facilities to rapidly ramp up production of battery cells. Planar would consider arrangements that include licensing of technology, JV, direct equity investments in Planar, or second-source arrangements.
- 2) Distribution partnerships. Planar intends to focus its efforts on selling into the following markets: (a) smart-phone, tablet and mobile devices; and (b) transportation, with an initial focus on automotive and non-highway rated vehicles. Planar is seeking a partner or partners with global distribution reach and relationships.
- 3) End customer relationships. Per (2) above, Planar is seeking to continue to build customer relationships.