

Nitrided Metallic Bipolar Plates  
(Topic 4)

**Oak Ridge National Laboratory**

- Funding

<b>DOE Cost Share</b>	<b>Recipient Cost Share</b>	<b>TOTAL</b>
\$4,530,000	\$238,085	\$4,768,085
95%	5%	100%

- **Project Description:** The goal of this collaborative effort is to scale up and demonstrate the technological and economic viability of thin stamped metallic bipolar plates protected by a thermally nitrided surface treatment. In this approach, an electrically-conductive and corrosion-resistant chromium-nitride surface layer is formed on the bipolar plate component by heating a specially designed bipolar plate alloy to high temperatures in a nitrogen-containing environment. Project work will include optimization of an inexpensive iron-chromium base alloy composition and nitridation process, characterization of the bipolar plates, followed by demonstration of the optimized bipolar plate stamping and nitridation processes and subsequent plate testing in a fuel cell stack.
- **Timeframe:** 2 years, starting in FY07

Sub-Contractors

<b>Institutions</b>
National Renewable Energy Laboratory
Los Alamos National Laboratory
GenCell
Arizona State University
Allegheny Ludlum Corp.