

Non-Platinum Bimetallic Cathode Electrocatalysts (Topic 3)

Argonne National Laboratory

- Funding

DOE Cost Share	Recipient Cost Share	TOTAL
\$5,433,700	\$410,100	\$5,843,800
93%	7%	100%

- **Project Description:** This project is focused on developing non-Platinum cathode electrocatalysts based on bimetallic base metal-noble metal systems. The noble metals will have lower cost than platinum. The choice of metals for the bimetallic systems is based on surface energy calculations giving the propensity of the minor noble metal component to segregate to the surface of a particle leaving a predominantly base metal core. The base metal component is chosen to make the noble metal more “Platinum-like”. Project work will include computational studies to guide the choice of particle composition; characterization of bulk polycrystalline alloy model systems; fabrication, characterization, and testing of carbon-supported bimetallic particles; and incorporating the most promising catalysts system into membrane electrode assemblies for performance testing.
- **Timeframe:** 4 years, starting in FY07

Sub-Contractors

Institutions
Oak Ridge National Laboratory
Los Alamos National Laboratory
University of Illinois – Chicago
University of Nevada – Las Vegas
California Institute of Technology