To achieve the project goals, Primus Power will direct cross-industry extremely durable, highly active, conductive, and inexpensive owned applications:

1. Grid storage can yield numerous benefits in utility and customer—single largest cost component in a well integrated design.
2. Affordable grid storage, however electrodes are costly and are the major limiting factor.
3. Flow batteries offer one of the most exciting opportunities for improving grid storage economics. Under this ARPA-E project, Primus Power will develop an advanced battery that will leverage economies of scale.
4. By incorporating volume production practices from the chlorine, filter media, and electroplating industries, Primus Power will effectively reduce electrode costs to exceed GRIDS cost targets while providing the durability essential for widespread grid-scale adoption.

This project will enable:

- Renewable firming
- Frequency regulation
- Capital deferral
- Load shifting
- Renewable firming
- Smart grid storage

Component Cost Breakdown

- Electrode Materials 47%
- Everything Else 53%

ARPA-E Electrode Project Timeline

Primus Power will begin installing the EnergyFarm in Modesto, California in 2012.