


DOE Hydrogen and Fuel Cells Program Record		
Record #: 12013	Date: 04/13/2012	
Title: Industry Deployed Fuel Cell Backup Power (BuP)		
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Item:

Table 1: Number of fuel cells deployments (current and planned) for applications in backup power.

	DOE Funded¹ (ARRA) as of 4/2012	DOE Funded^{2,3} (Appropriations) as of 4/2012	DOE Total	Industry Funded or on Order (Globally)³⁻⁷ From 2009 – Record Date	DOE and Industry Total From 2009 – Record Date
Number of Backup Power Deployments (current & planned)	668	63	731	1,325	2,056

Successful Department of Energy (DOE) projects have led to over 1,300 industry installations and on-order units with no DOE funding.

Data/Assumptions/Calculations:

The manufacturers providing the fuel cells for the deployments (current and planned) mentioned in Table 1 above are:

Alteryg	Plug Power, Inc.
Hydrogenics	ReliOn, Inc.
IdaTech	

Total DOE American Recovery and Reinvestment Act (ARRA) investment for these fuel cell projects is \$18.5M, with an industry cost share of \$30.8M.ⁱ While publicly available sales information for backup power fuel cell sales is difficult to obtain, industry reports of sales

ⁱ ARRA funding supported deployments in backup power for: ReliOn with deployments at AT&T and PG&E sites, Sprint Nextel with deployments at Sprint sites, and Plug Power with deployments at Warner Robins Air Force Base and Fort Irwin. Funds included units as well as other aspects of the project such as installation, pre-testing, data collection, analysis, maintenance, and reporting.

activity in recent years show signs of substantial growth in sales activity. ReliOn during Q1 2012 stated publicly that they have delivered more than 4 MW of product at over 1,400 commercial customer sites in the United States and 34 additional countries.⁴ By comparison, ReliOn in October 2008 reported publicly that it had delivered more than 1.7 MW of product to locations primarily in North America.⁴ In effect, the sales by ReliOn more than doubled during this period, and its products have been introduced in countries around the world. In August 2009, Altery reported the sale of more than 330 systems to Metro PCS, which was regarded as the “largest known fuel cell deployment” at the time of the announcement.⁵ In January 2011, IdaTech reported it had sold more than 445 backup power units during 2009 and 350 systems during 2010.⁶

Examples of companies that have purchased or committed to purchasing fuel cells are as follows:

Anglo American Platinum	Ohio MARCS	T-Mobile
AT&T	Pacific Gas & Electric	Time Warner Cable
Hutchinson Indonesia Telecom	Saint Andrew Plaza	Union Pacific Railroad
Maryland MIEMSS	Sprint Nextel	Wireless TT Info Services
METRO PCS	Pennsylvania Statewide Radio Project	

Based on OEM feedback, it was determined that their purchase orders for deployments were considered either directly or indirectly due to results of the DOE Fuel Cell Technologies (FCT) Program. This includes both Market Transformation and American Recovery and Reinvestment Act deployment funding. In some instances, companies increased the number of purchases beyond those with DOE funds assistance. In other instances, the OEMs were able to show the business case using data collected from DOE projects and obtained purchase orders with no DOE funding. The list includes only companies for which deployments can be traced to DOE FCT Program involvement.

Reference(s):

1. Number includes data received from individual project investigators and from: “Backup Power Fuel Cell Systems Deployed: ARRA”, National Renewable Energy Laboratory, December 2011:
http://www.nrel.gov/hydrogen/cfm/images/cdp_bu_01_unitsdeployed.jpg and
http://www.nrel.gov/hydrogen/proj_fc_market_demo.html
2. “Beyond Demonstration: The Role of Fuel Cells in DoD’s Energy Strategy”, LMI 2011.
http://www.dlafuelcells.org/wp-content/uploads/2011/10/DoD-Fuel-Cell_10-19-11.pdf

3. FUEL CELLS 2000, Worldwide Stationary Installation Database:
<http://www.fuelcells.org/info/databasefront.html>
4. “ReliOn E-1100v Fuel Cell Product Offers Footprint Space Savings”, ReliOn press release includes worldwide deployment information as of February 2012:
<http://www.relion-inc.com/news.asp#41>
5. “Alteryg Completes Largest Known Fuel Cell Deployment”, Alteryg Systems announced the deployment of more than 330 systems for Metro PCS, November 2009:
http://www.alteryg.com/announcements/completes_largest_fuel_cell.asp
6. “IdaTech plc Public and Trading Update”, January 2011:
http://www.idatech.com/uploadDocs/IdaTech%20plc_2010%20Trade%20Update_Jan2011.pdf
7. “WTTIL and Plug Power Enter into Purchase and Maintenance Agreement for 200 GENSYS Fuel Cell Systems”, Plug Power reported it had sold 200 backup power units, July 2009: http://www.plugpower.com/News/PressReleases/09-07-23/WTTIL_AND_PLUG_POWER_ENTER_INTO_PURCHASE_AND_MAINTENANCE_AGREEMENT_FOR_200_GENSYS_FUEL_CELL_SYSTEMS.aspx