



**Technical Report**  
NREL/TP-5600-57588  
January 2013

# **Early Fuel Cell Market Deployments: ARRA and Combined (IAA, DLA, ARRA)**

## **Quarter 3 2012 Composite Data Products**

Jennifer Kurtz, Keith Wipke, Sam Sprik, Todd Ramsden, Chris Ainscough,  
Genevieve Saur, Matt Post

## NOTICE

This report was prepared as an account of work sponsored by an agency of the United States government. Neither the United States government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States government or any agency thereof.

Available electronically at <http://www.osti.gov/bridge>  
Available for a processing fee to U.S. Department of Energy  
and its contractors, in paper, from:  
U.S. Department of Energy  
Office of Scientific and Technical Information  
P.O. Box 62  
Oak Ridge, TN 37831-0062  
phone: 865.576.8401  
fax: 865.576.5728  
email: <mailto:reports@adonis.osti.gov>

Available for sale to the public, in paper, from:  
U.S. Department of Commerce  
National Technical Information Service  
5285 Port Royal Road  
Springfield, VA 22161  
phone: 800.553.6847  
fax: 703.605.6900  
email: [orders@ntis.fedworld.gov](mailto:orders@ntis.fedworld.gov)  
online ordering: <http://www.ntis.gov/help/ordermethods.aspx>

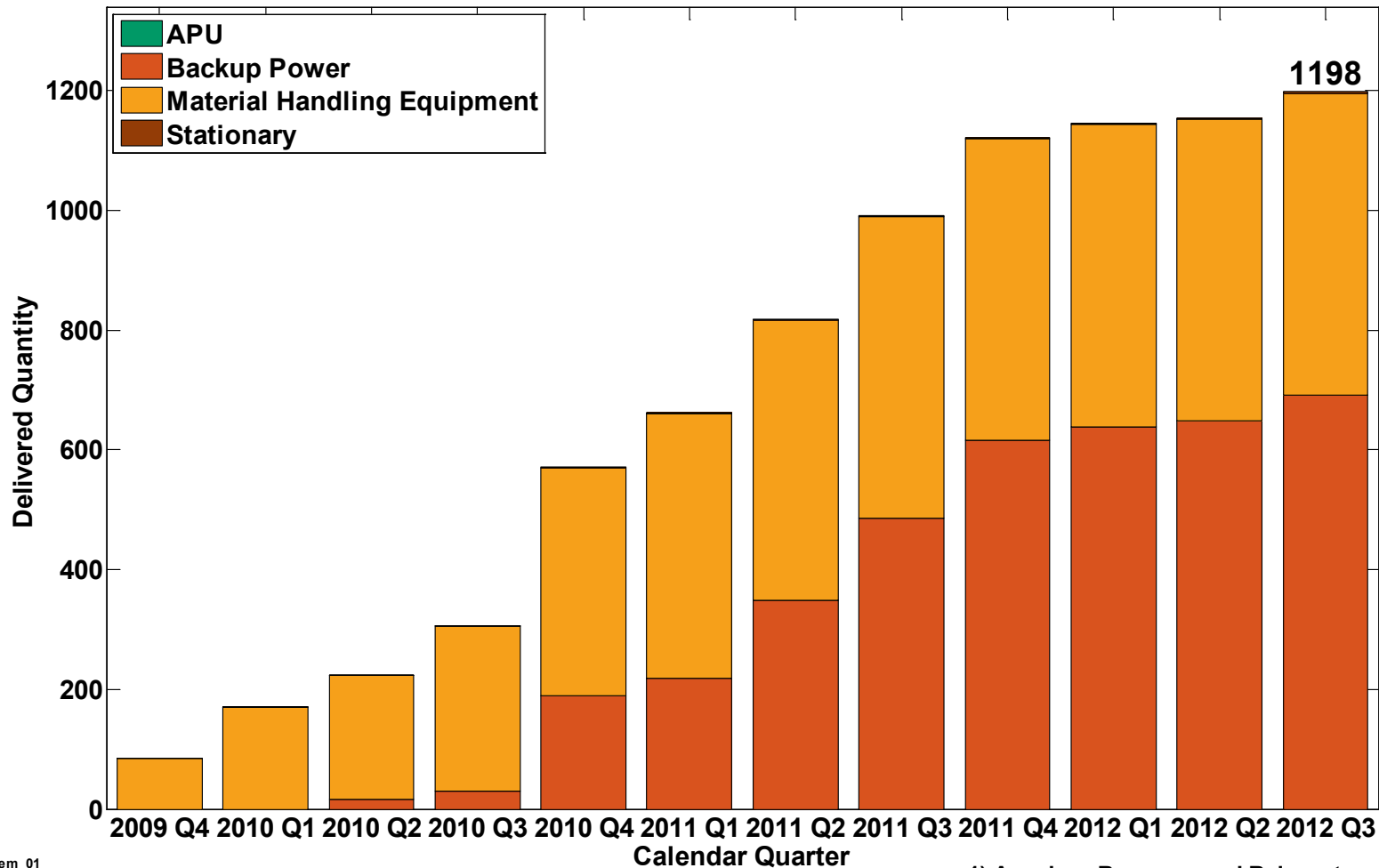
Cover Photos: (left to right) PIX 16416, PIX 17423, PIX 16560, PIX 17613, PIX 17436, PIX 17721



Printed on paper containing at least 50% wastepaper, including 10% post consumer waste.

# CDP ARRA#01: Fuel Cell Units Delivered to Site

DOE ARRA<sup>1</sup> Funded Early Fuel Cell Markets: Delivered Units

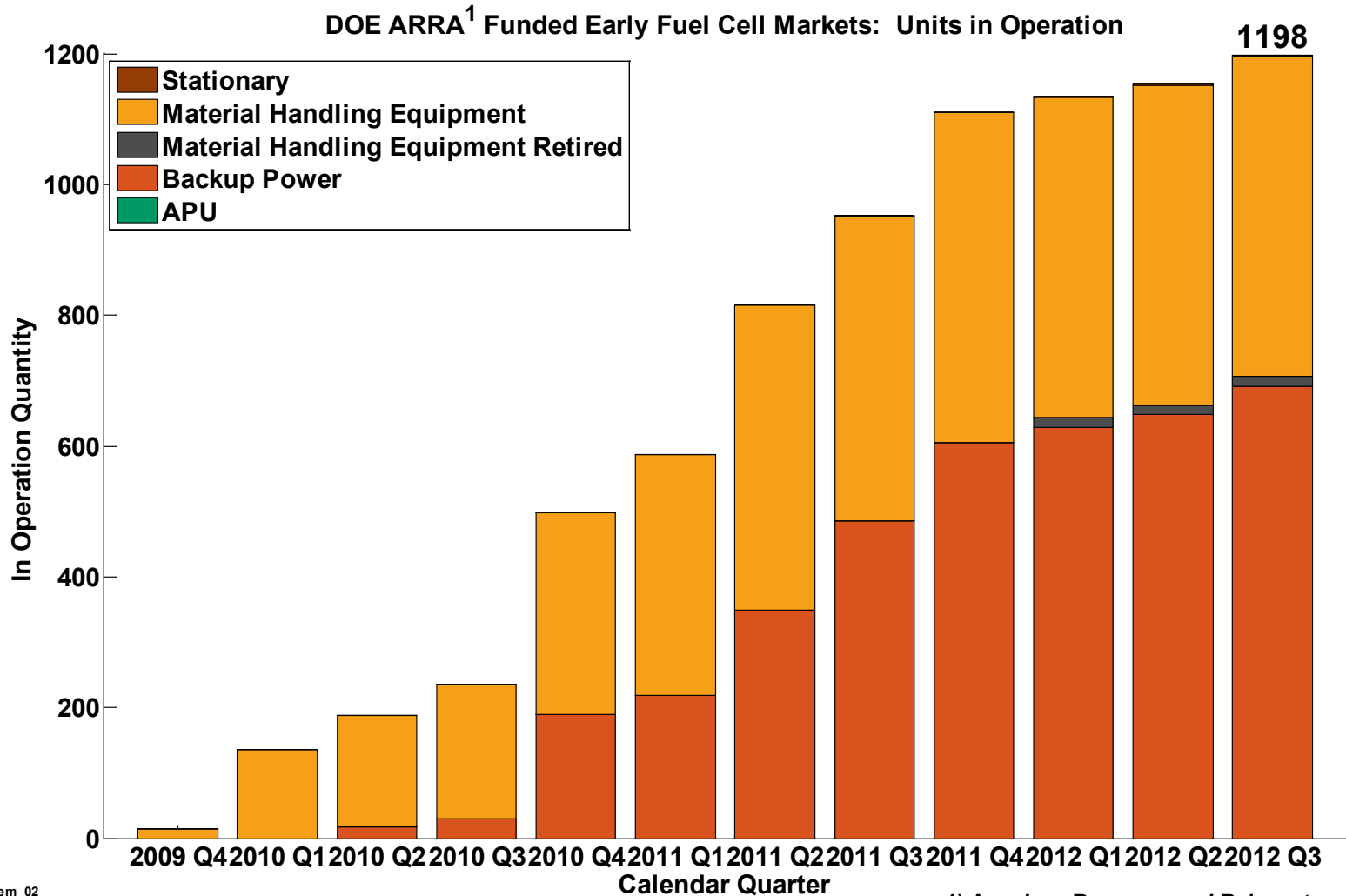


NREL cdparra\_em\_01  
Created: Dec-19-12 2:28 PM

1) American Recovery and Reinvestment Act

# CDP ARRA#02: Fuel Cell Units in Operation

## Current and Projected Quantities

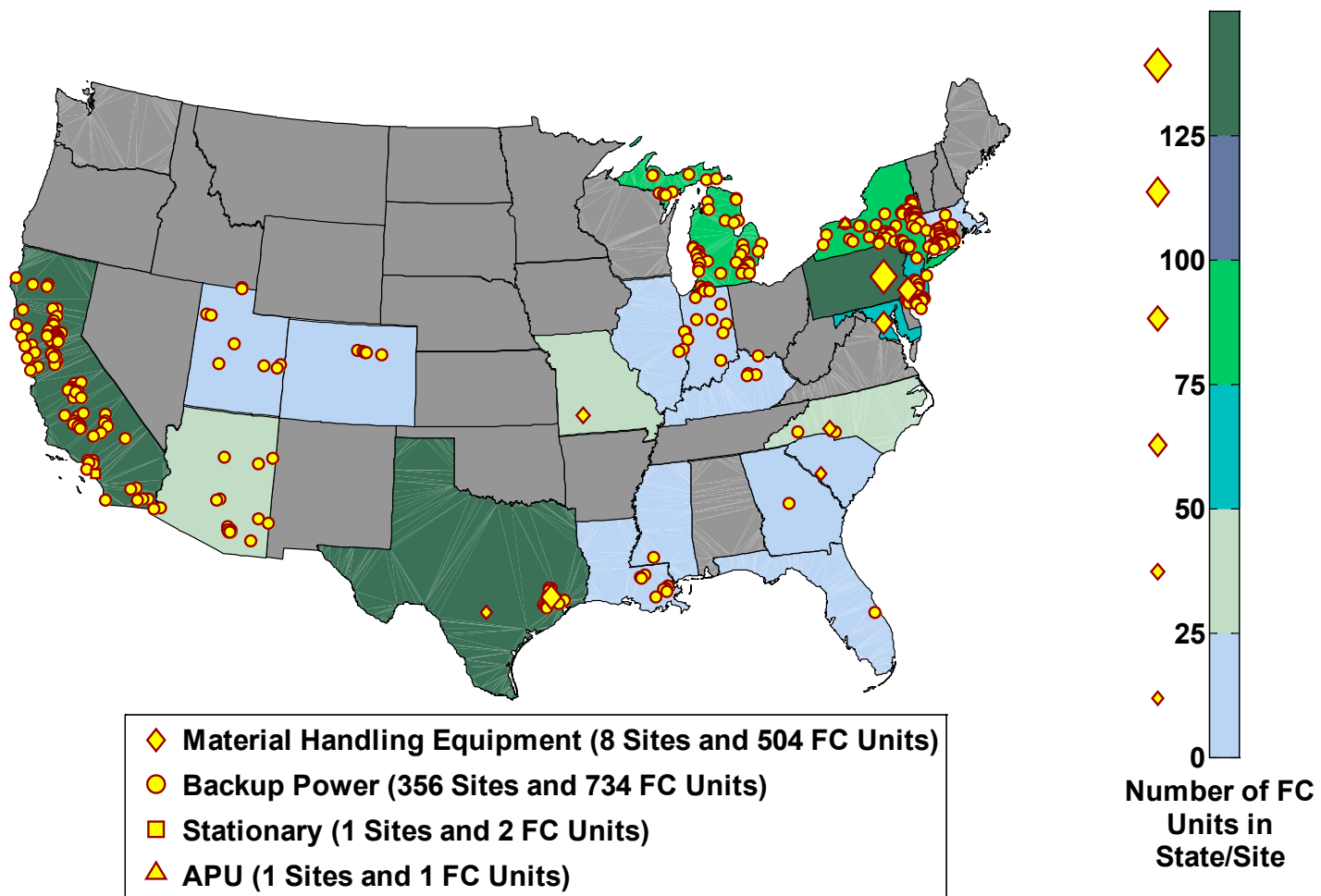


NREL cdparra\_em\_02  
Created: Dec-19-12 2:28 PM

1) American Recovery and Reinvestment Act

# CDP ARRA#03: Early Fuel Cell Market Deployment Sites

FC Unit Locations - ARRA

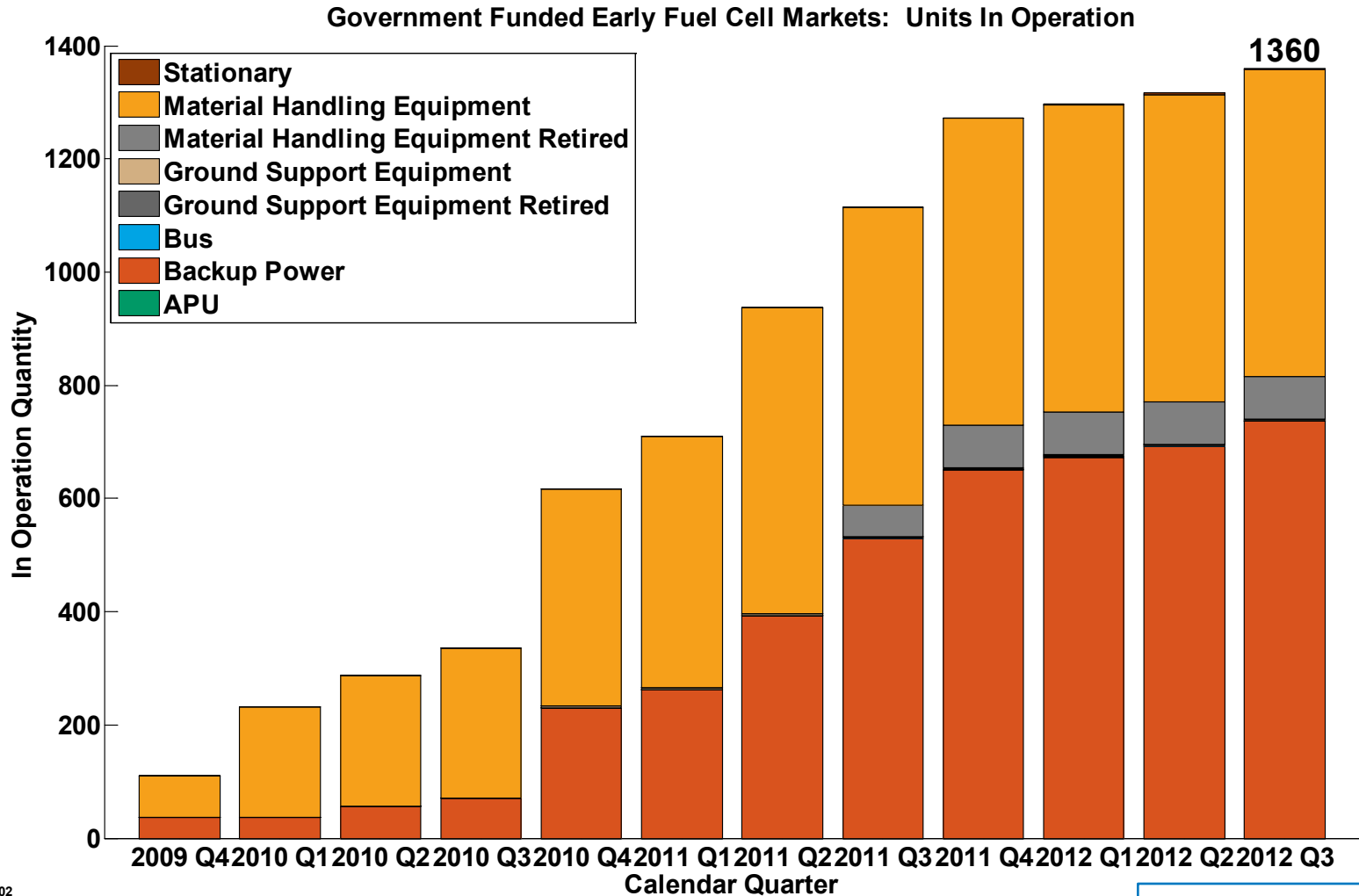


---

# **DOE ARRA, DOE IAA, & DoD**

## **Early Fuel Cell Market Deployments**

# Government Funded Fuel Cell Units in Operation: Current and Projected Quantities

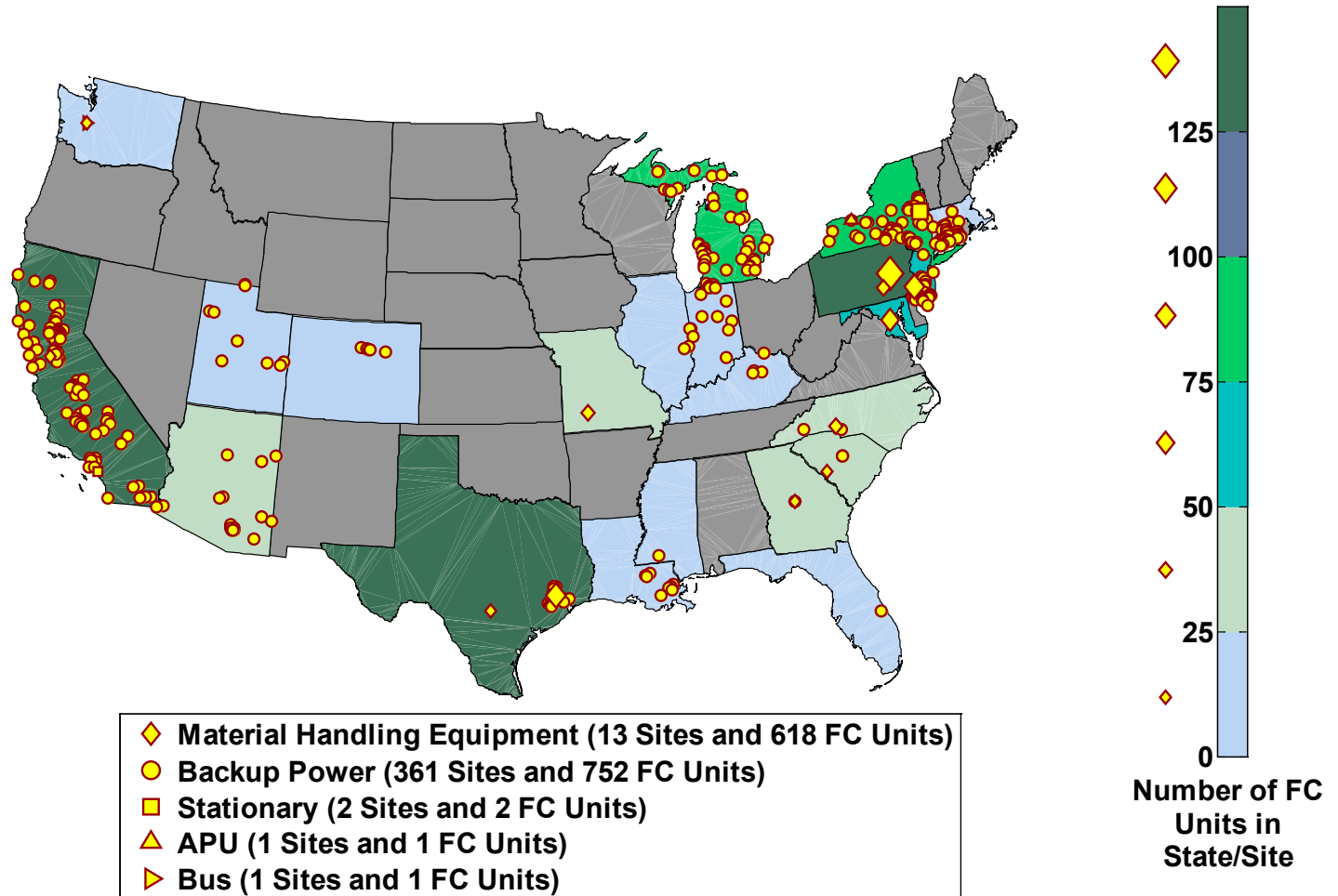


NREL cdp\_em\_02  
Created: Dec-19-12 2:28 PM

Fund Sources Include:  
DOE ARRA, DOE IAA, DoD

# Government Funded Early Fuel Cell Market Deployment Sites

## FC Unit Locations - Early Market Applications



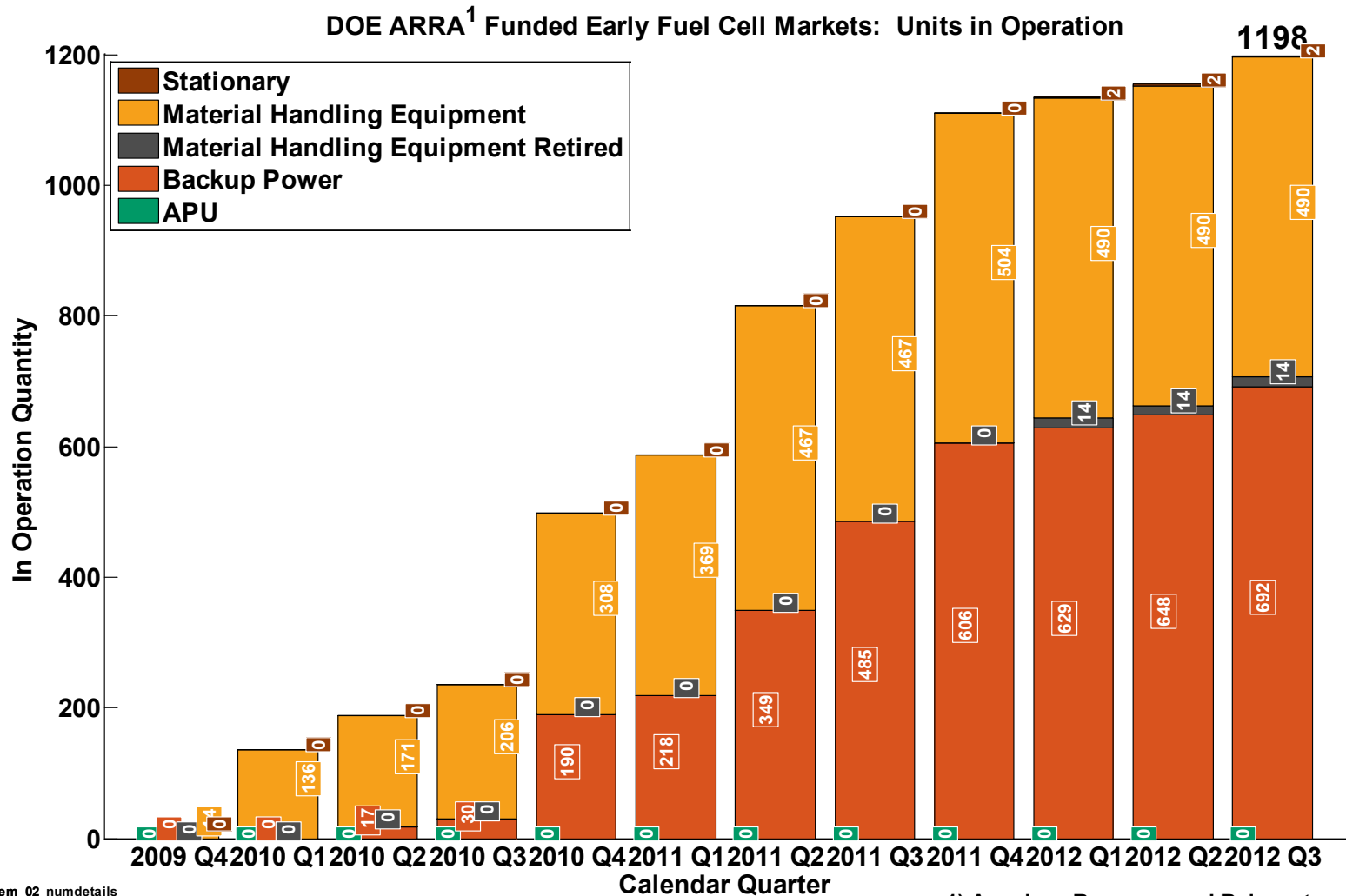


---

# DOE ARRA & Combined Operation Quantities

List Quantities - FYI

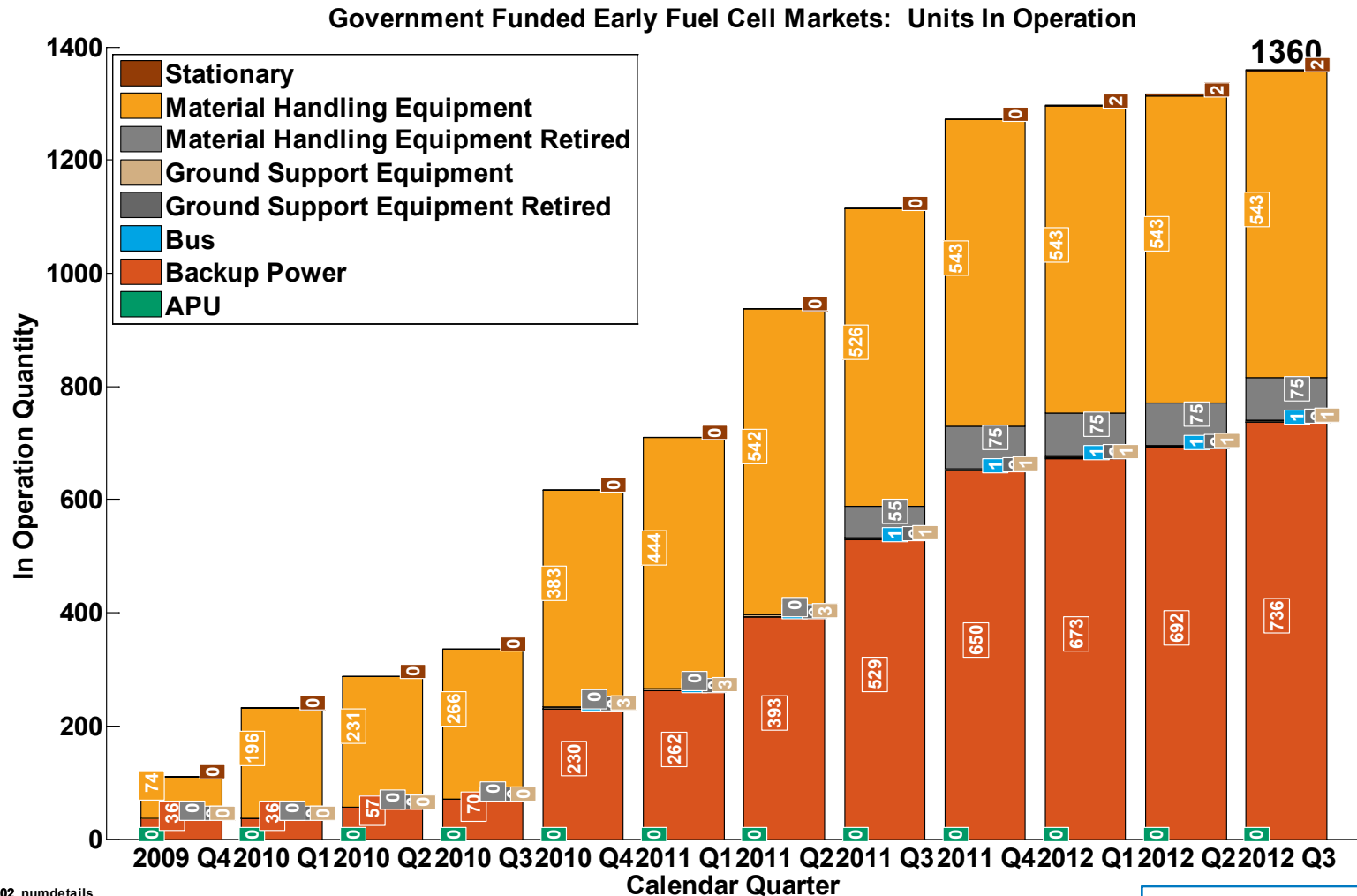
# ARRA Fuel Cell Units in Operation: Current and Projected Quantities



NREL cdparra\_em\_02\_numdetails  
Created: Dec-19-12 2:28 PM

1) American Recovery and Reinvestment Act

# Government Funded Fuel Cell Units in Operation: Current and Projected Quantities



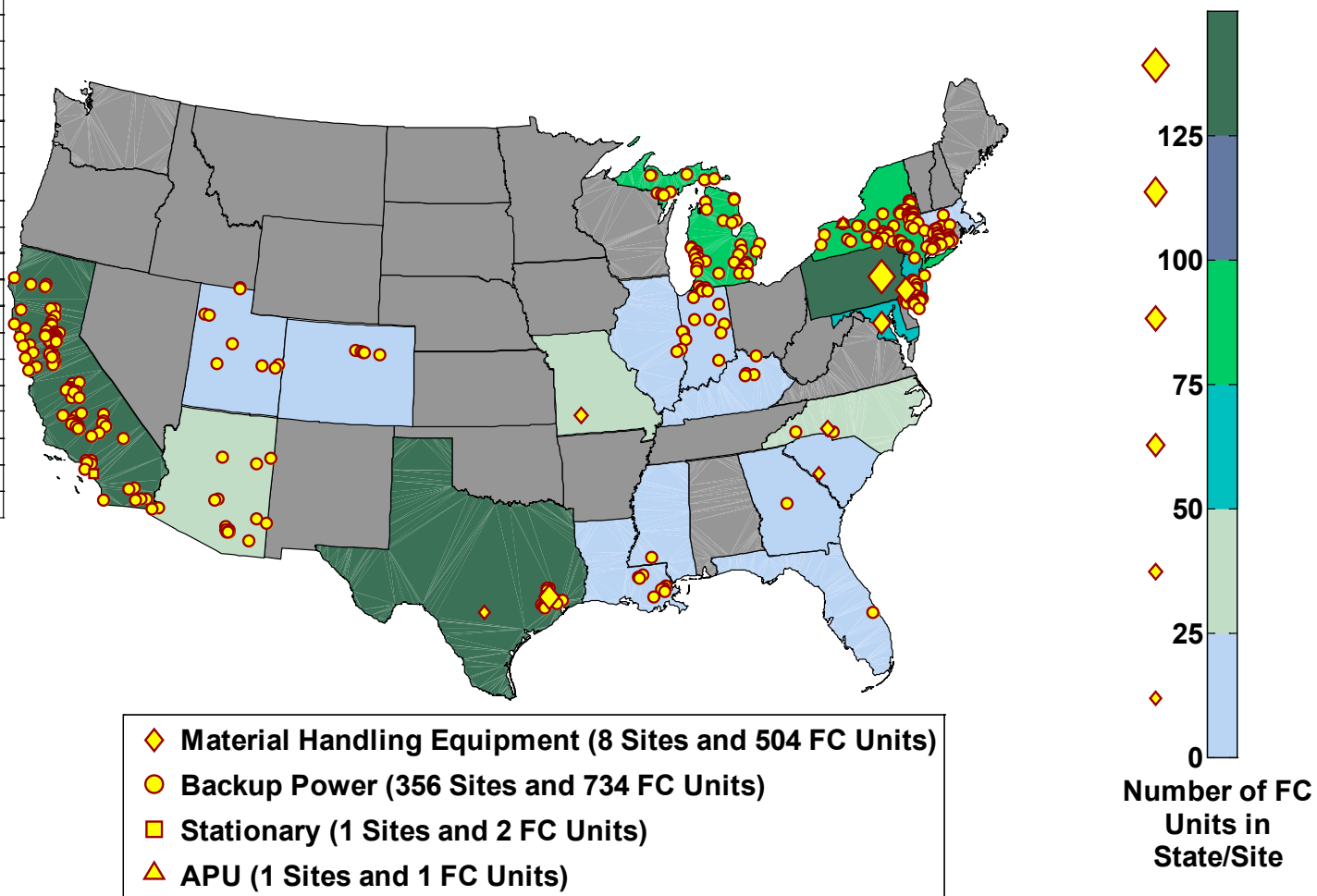
NREL cdp\_em\_02\_numdetails  
Created: Dec-19-12 2:28 PM

Fund Sources Include:  
DOE ARRA, DOE IAA, DoD

# CDP ARRA#03: Early Fuel Cell Market Deployment Sites with Numbers

FC Unit Locations - ARRA

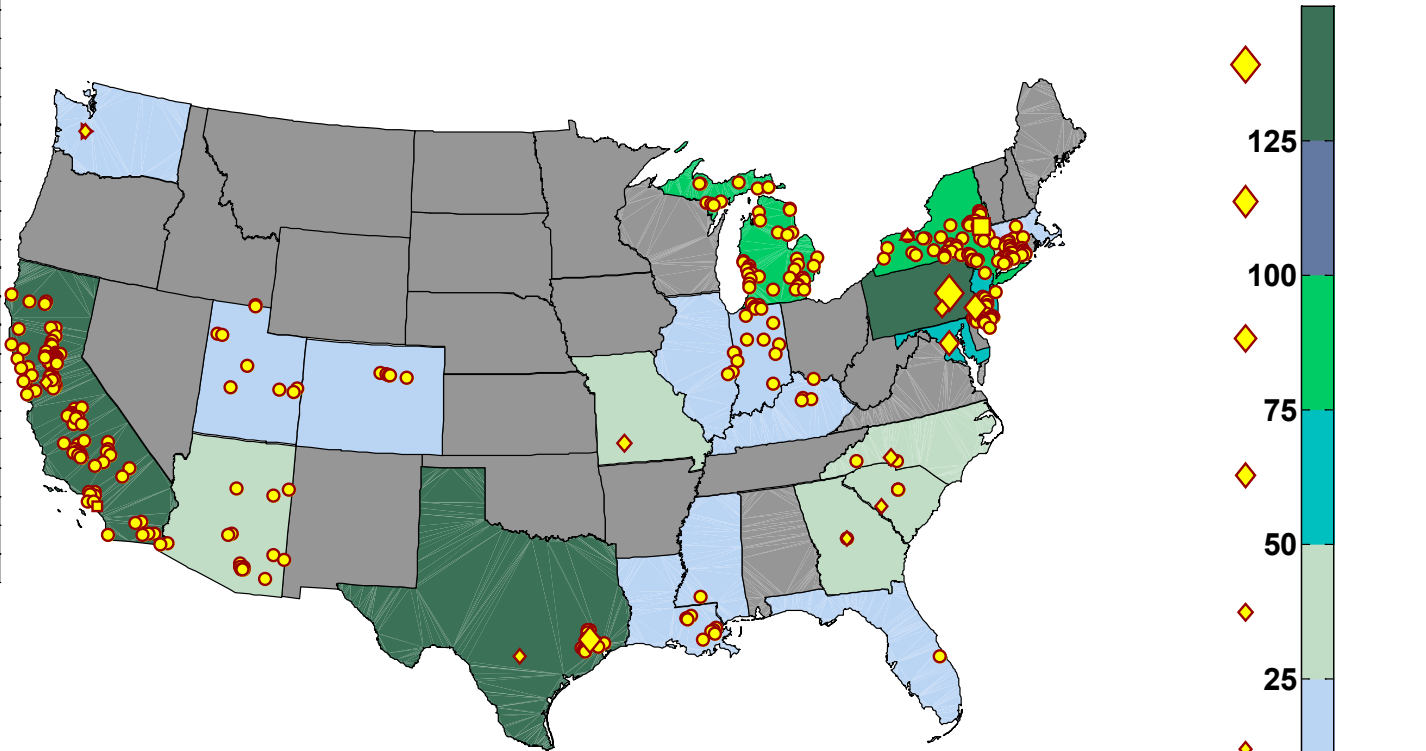
State	Sites	Units
Arizona	16	42
California	122	268
Colorado	5	12
Connecticut	27	43
Florida	1	3
Georgia	1	10
Illinois	2	2
Indiana	16	25
Kentucky	4	11
Louisiana	8	16
Maryland	1	61
Massachusetts	1	2
Michigan	41	84
Mississippi	1	2
Missouri	1	35
New Jersey	30	62
New York	54	97
North Carolina	3	44
Pennsylvania	2	231
South Carolina	1	25
Texas	20	148
Utah	9	18
<b>Total</b>	<b>366</b>	<b>1241</b>



# Combined Early Fuel Cell Market Deployment Sites with Numbers

FC Unit Locations - Early Market Applications

State	Sites	Units
Arizona	16	42
California	125	296
Colorado	5	12
Connecticut	27	43
Florida	1	3
Georgia	3	32
Illinois	2	2
Indiana	16	25
Kentucky	4	11
Louisiana	8	16
Maryland	1	61
Massachusetts	1	2
Michigan	41	84
Mississippi	1	2
Missouri	1	35
New Jersey	30	62
New York	55	97
North Carolina	3	44
Pennsylvania	5	287
South Carolina	4	35
Texas	20	148
Utah	9	18
Washington	2	20
<b>Total</b>	<b>380</b>	<b>1377</b>



- ◆ Material Handling Equipment (13 Sites and 618 FC Units)
- Backup Power (361 Sites and 752 FC Units)
- Stationary (2 Sites and 2 FC Units)
- ▲ APU (1 Sites and 1 FC Units)
- ▶ Bus (1 Sites and 1 FC Units)

Number of FC Units in State/Site