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# Assessment of Demand Response & Advanced Metering, Staff Report December 2012

for  
**MADRI Working Group Meeting #30**  
**PJM Headquarters, Norristown, PA**

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# Assessment of Demand Response & Advanced Metering Staff Report, December 2012



- Today's presentation will discuss:
  - Purpose of FERC's Annual Assessment
  - Results:
    - Advanced Metering
    - Demand Response Resources
  - FERC Demand Response Activities
  - Demand Response Information Sources at FERC

# Assessment of Demand Response & Advanced Metering Staff Report, December 2012



- The Energy Policy Act of 2005 requires that FERC prepare and publish an annual report on the penetration of advanced meters and demand response programs in the electric power industry in the United States.
- Since 2006, FERC Staff has published a series of annual reports assessing demand response and advanced metering in the United States.
  - Comprehensive nationwide surveys are conducted every other year.
  - For reports in the intervening years, information is based on publicly-available information and discussions with market participants and industry experts.
- Respondents voluntarily participate in the biennial FERC survey.

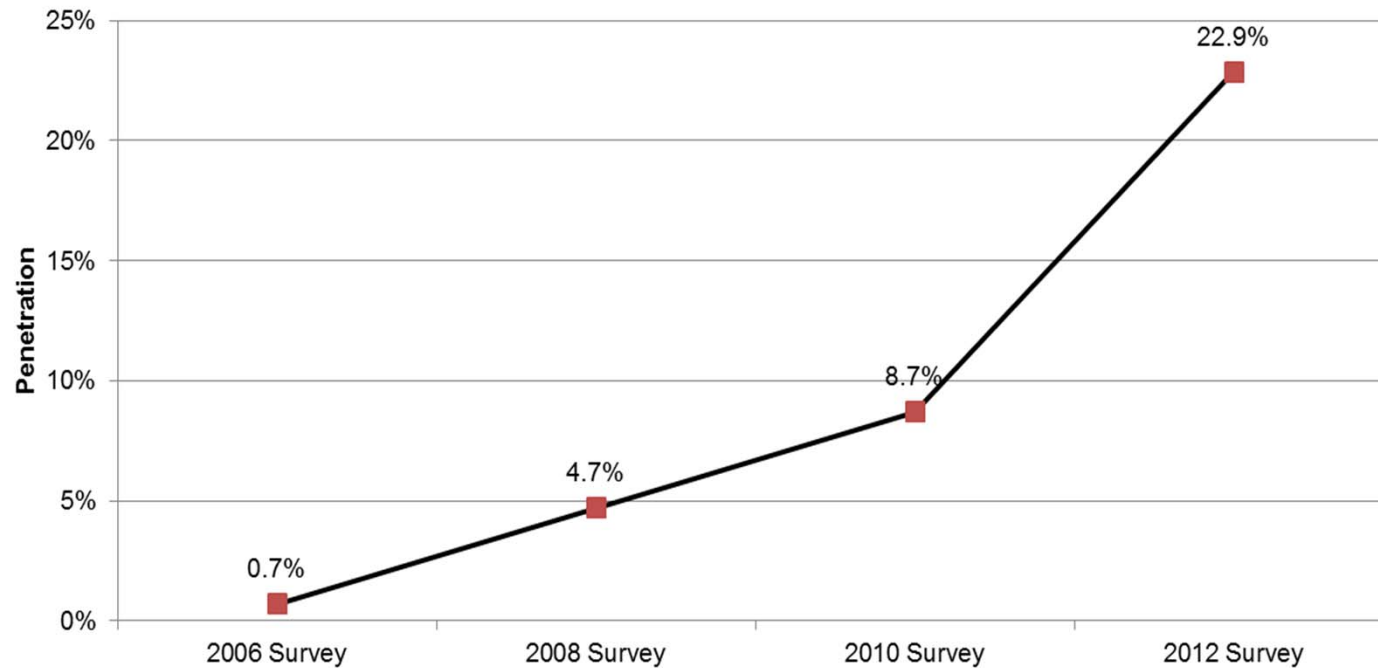
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# Assessment of Demand Response & Advanced Metering Staff Report Process



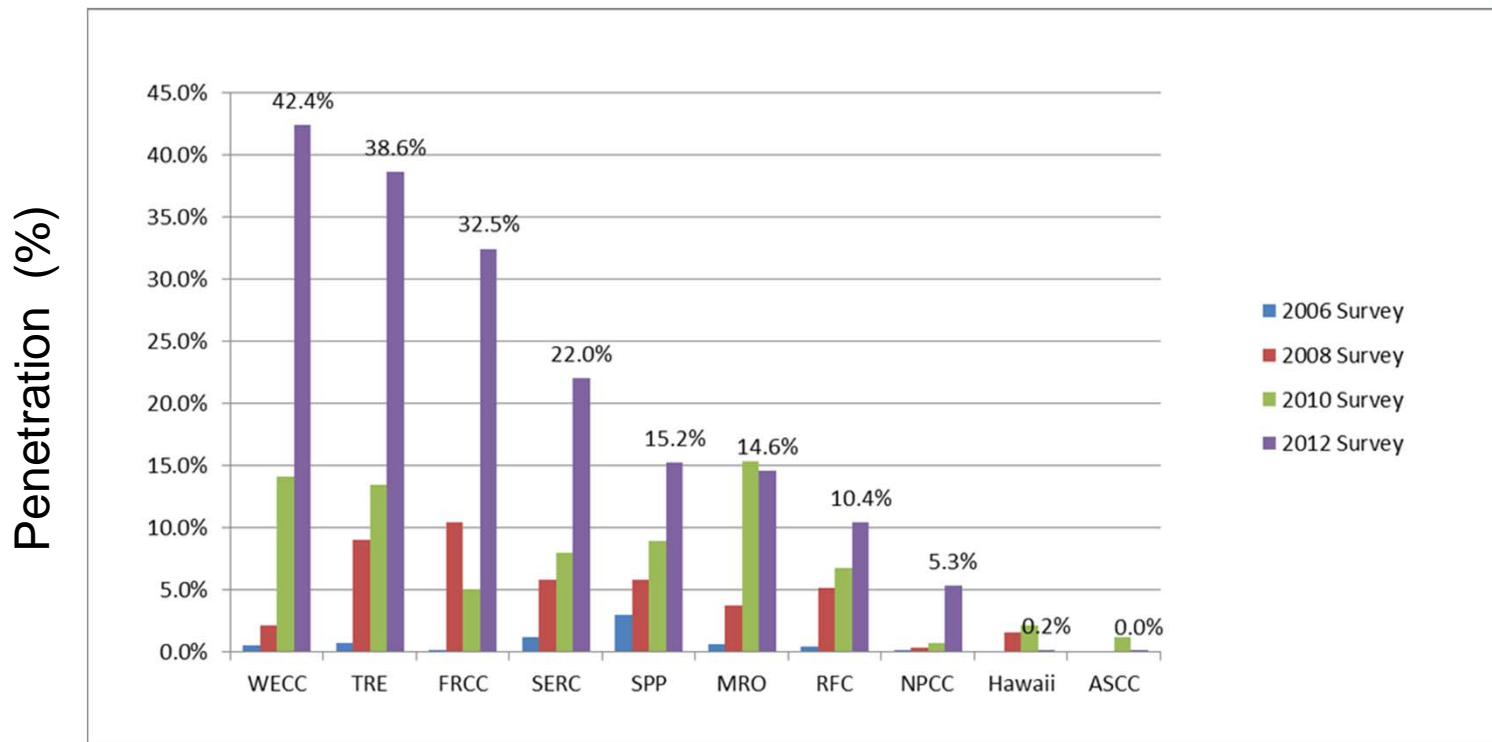
- The 2012 Assessment includes information on:
  - Reported values from the entities that responded to the FERC survey
  - Estimated values of regional AMI penetration and Demand Response activity
  - All values represent a snapshot of time (2011)

# Estimated U.S. AMI Penetration



The results show continued significant growth in advanced metering deployment in the U.S.: advanced meters comprised about 23 percent of all electric meters in the U.S. in 2011, compared to less than 9 percent in 2009.

# Estimated Regional AMI Penetration Rates (2006, 2008, 2010, and 2012)



## NERC Region

- Increases in penetration are generally driven by the residential sector; however, non-residential penetrations are also increasing (e.g., over 30 percent for WECC and Texas).
- Western states, Texas and Florida have significant penetration rates.

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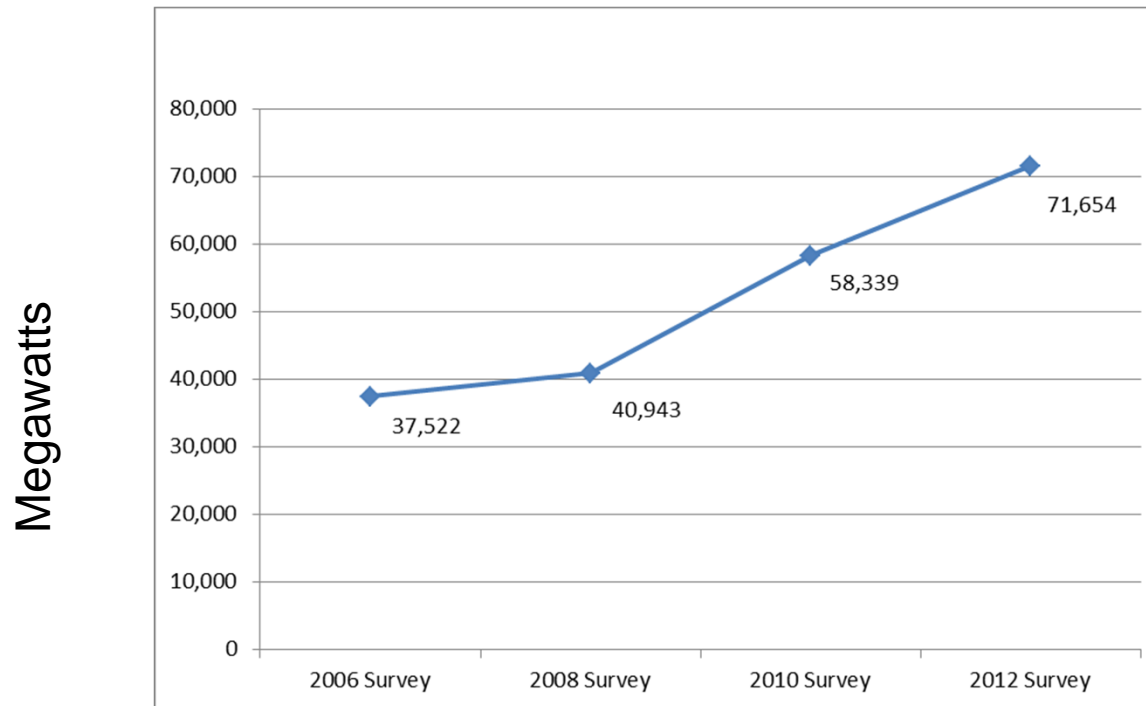
## MADRI Jurisdictions: 2011 Estimated Penetration Rates



■ Delaware	52.4 percent
■ District of Columbia	87.1 percent
■ Illinois	3.2 percent
■ Maryland	3.8 percent
■ New Jersey	0.2 percent
■ Ohio	8.8 percent
■ Pennsylvania	20.9 percent

Since the last survey cycle, reports indicate there has been significant increases in the number of advanced meters across the majority of the jurisdictions (e.g., AEP, BG&E, ComEd, PECO, PEPCO and PSE&G).

## Estimated U.S. Potential Peak Reduction, 2005-2011



The megawatt capability of all U.S. demand response programs continues to grow substantially. The report estimates nearly 72,000 megawatts of demand response, or almost 10 percent of U.S. coincident peak demand. This is an increase of about 13,000 megawatts between 2009 and 2011.



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# Reported Potential Peak Reduction



- Nearly every region increased its reported potential peak reduction between 2009 and 2011.
- Reliability *First* remained the region with the most reported potential peak reduction.
  - 2012 Survey: 24,381 MW
  - An increase of over 8,500 MW from the 2010 Survey
  - Largely due to increased participation in PJM's forward capacity market.

# MADRI Jurisdictions: 2012 Survey Reported Potential Peak Reduction by Program Type (MW)



	Time-based	Direct Load Control	Other Incentive Based	Emergency Demand Response	Interruptible Load	Other	Total
<b>D.C.</b>		25	97				122
<b>Delaware</b>	117	76	186		20	9	408
<b>New Jersey</b>		112	786	9	3		910
<b>Maryland</b>	232	822	1,357		66		2,477
<b>Ohio</b>	3	88	2,536	44	475		3,146
<b>Illinois</b>	9	189	1,658	58	1,298		3,212
<b>Pennsylvania</b>	169	68	3,745	19	211		4,212

*Note: Totals may not equal parts due to rounding.*

- Time-based: CPP, CPP w/ Load Control, TOU, RTP, and PTR
- Other Incentive-based: Load as a Capacity Resource, Spinning Reserves, Non-Spinning Reserves, Regulation, Demand Bidding, and System Peak Response Transmission Tariff.

# FERC Demand Response Activities



## ■ Order No. 1000 (Issued July 2011)

- Maintained Order No. 890's requirement that public utility transmission providers consider all types of resources, including demand response and energy efficiency, on a comparable basis in transmission planning.
- PJM's compliance filing (Oct. 25, 2012)
  - Uses the Regional Transmission Expansion Plan (RTEP) process.
  - Within the RTEP process, PJM proposed to explicitly consider demand response within sensitivity studies, modeling assumption variations, and scenario analysis.

## ■ Order No. 676-G (Issued February 2013)

- NAESB's Phase II DR & EE M&V standards for organized wholesale electricity markets.
- Revises existing DR standards by adding specificity to existing standards in several areas: meter data reporting, advanced notification, telemetry and meter accurate.
- Final Rule concludes the DR M&V standards represented an incremental improvement.

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## Demand Response Information Sources at FERC



- Demand Response & Advanced Metering Webpage: Reports and datasets
  - <http://www.ferc.gov/industries/electric/industryact/demand-response/dem-res-adv-metering.asp>
- 2012 Survey on Demand Response and Advanced Metering Webpage
  - <http://www.ferc.gov/industries/electric/industryact/demand-response/2012/survey.asp>
- 2014 Survey Documents: Forthcoming



Thank you.

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