

# **Demand Response at GSA**

## **Costs/Benefits of Participation**

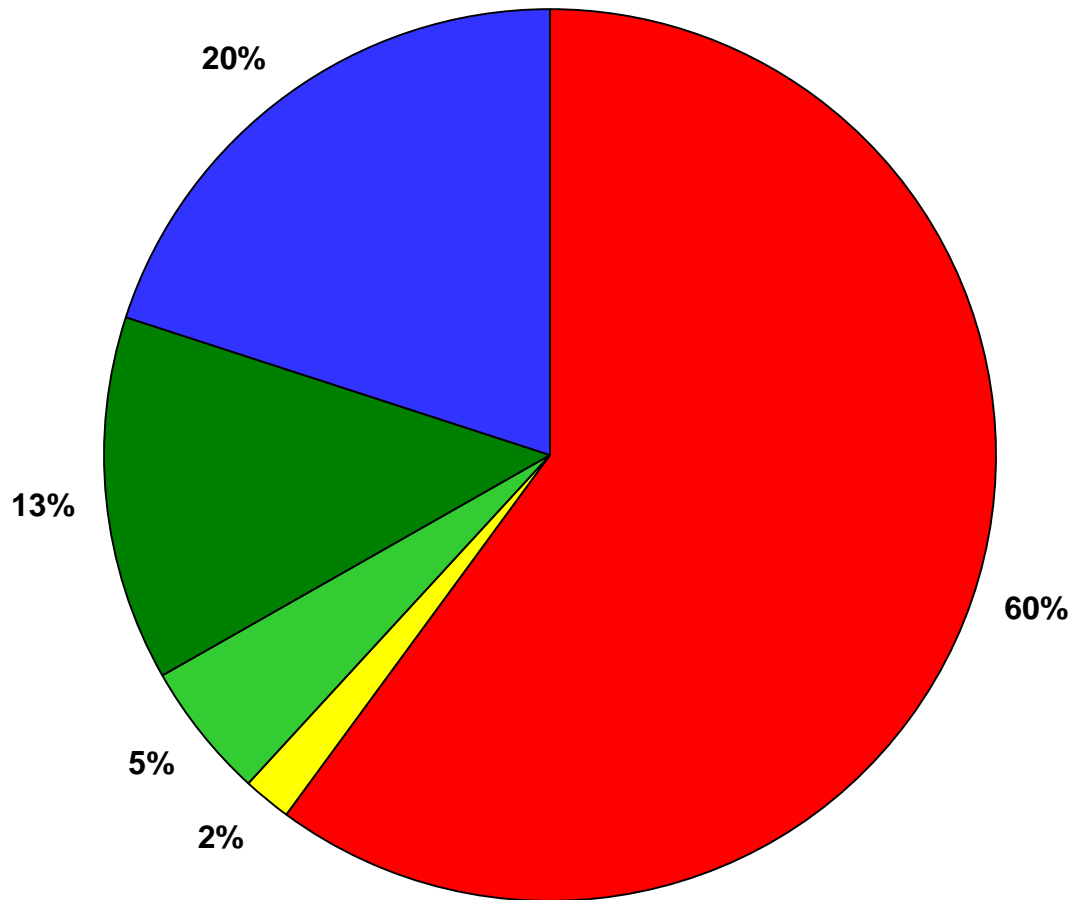
June 17, 2014

# GSA Overview

- Federal landlord and purchasing agent
- Purchase 4.5 million MWhs power annually with annual value of \$340 million
- Purchase 20.6 million Dths natural gas annually with annual value of \$95 million
- Intervene before state/local regulatory bodies
- Direct utility budget of \$420 million

# Eastern PJM Electric Cost Components

Sample C&I Customer - 2014



■ Energy - PJM / Block

■ Ancillaries

■ Transmission

■ Capacity

■ LDC

# **PJM Demand Response**

## **Definition**

### **Demand Response**

Demand response (also known as load response) is end-use customers reducing their use of electricity in response to power grid needs, economic signals from a competitive wholesale market or special retail rates.

GSA defines demand response broadly to include peak shaving of capacity obligations.

# GSA Enrolled DR Loads

		MW	
		Enrolled	2013
<u>Region</u>	<u>Accts</u>	<u>Demand</u>	<u>Payout</u>
CT	1	0.2	\$3,227
NY/NJ	19	7.15	\$378,766
Baltimore	1	3.3	\$257,677
DC/MD	19	11.6	\$839,400
IL/OH	9	2.4	\$22,237
<b>TOTALS</b>	<b>49</b>	<b>25</b>	<b>\$1,501,307</b>

# GSA Participation Criteria

- Encouraged by EPACT 2005 – GAO audits
- Potential pay out much more important than costs
- Is it easy to participate?
- Do we need to install any new equipment?
- Do retail supply contracts incent demand response activities (capacity and transmission pass-throughs)?
- Checks preferred over bill reduction.

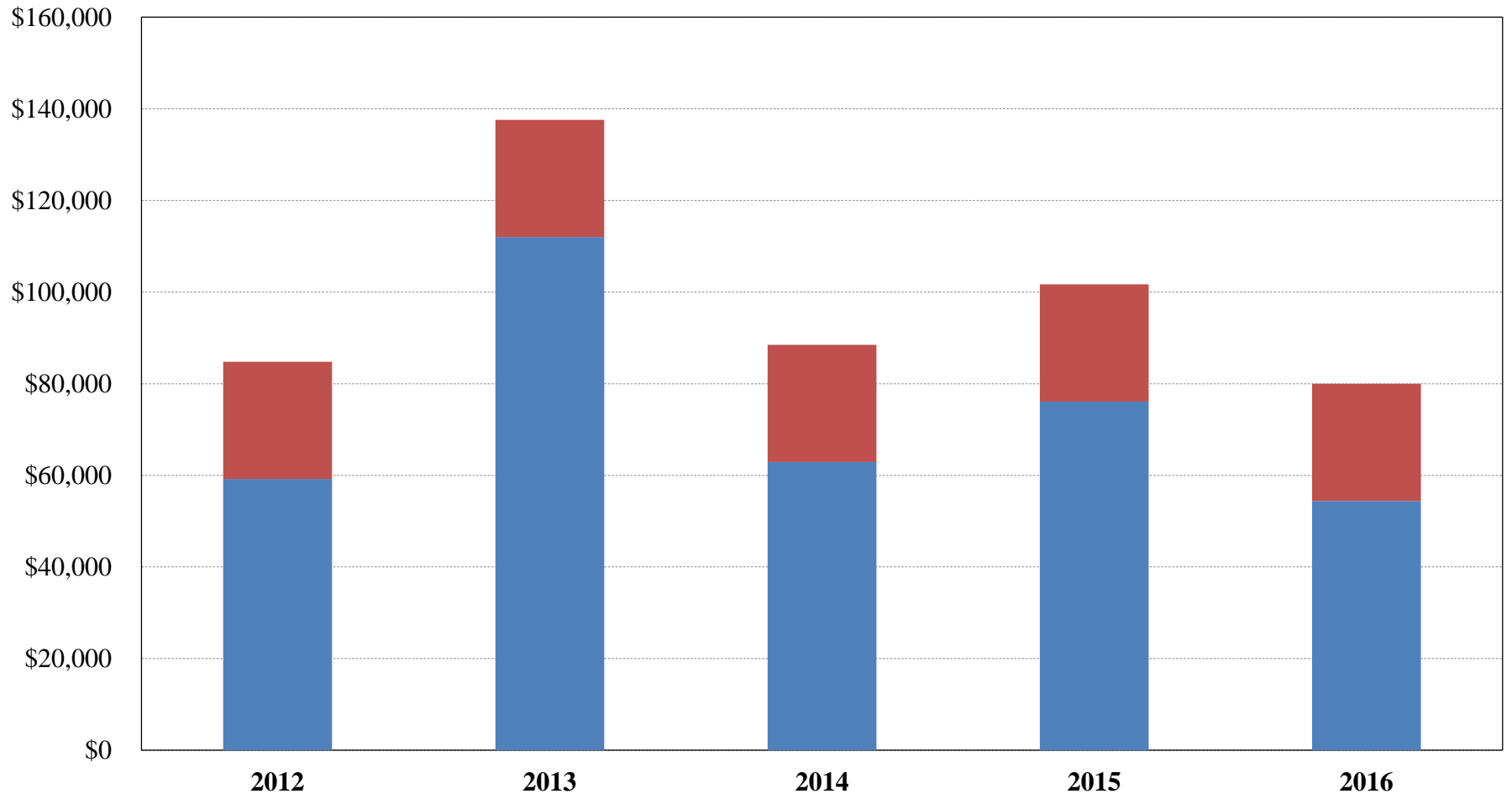
# Costs of Participating

- DR costs limited to PLC peak day alarm service and fuel that is consumed when running back-up generators (about 35% of GSA DR is through back-up generators). Most ISO sponsored GSA DR occurs by turning equipment off or dialing it back.
- PJM cogen units (35 MWs peak demand) are base load units, so GSA does not consider running those units an additional DR cost.
- Development of load shedding plans at each building takes time, but those personnel are already on staff or under contract
- The pass-through approach to capacity and transmission also enables GSA's solar resources (3 MWs in PJM) to lower future capacity and transmission charges passively

Load\_Zone

Sum of Annual-UCAP-Customer Sum of Annual-TCAP-Customer

### Annual PJM-PEPCO / UCAP & Trans Cap Value per 1 MW of Metered Load



Values

■ Sum of Annual-UCAP-Customer    ■ Sum of Annual-TCAP-Customer

Start\_Year



# Benefits of Participating

- Payments to GSA for utility/ISO sponsored programs were an estimated \$1.5 million in 2013
- An estimated 40.5 MWs of avoided PJM capacity and transmission charges for 3 facilities of using “informal” peak shaving are worth about \$3.2 million for 2014
- Peak shaving results difficult to quantify but our 19 PEPCO area DR buildings dropped capacity requirement by 6% or 3.6 MWs for PJM year 2014/15 and 9% or 5.6 MWs over past 2 years – no generation involved
- GSA anticipates significant growth in Federal behind the meter solar resources that will further reduce capacity/transmission requirements

# Contact Information

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