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GSA Power Purchasing

August 8, 2011

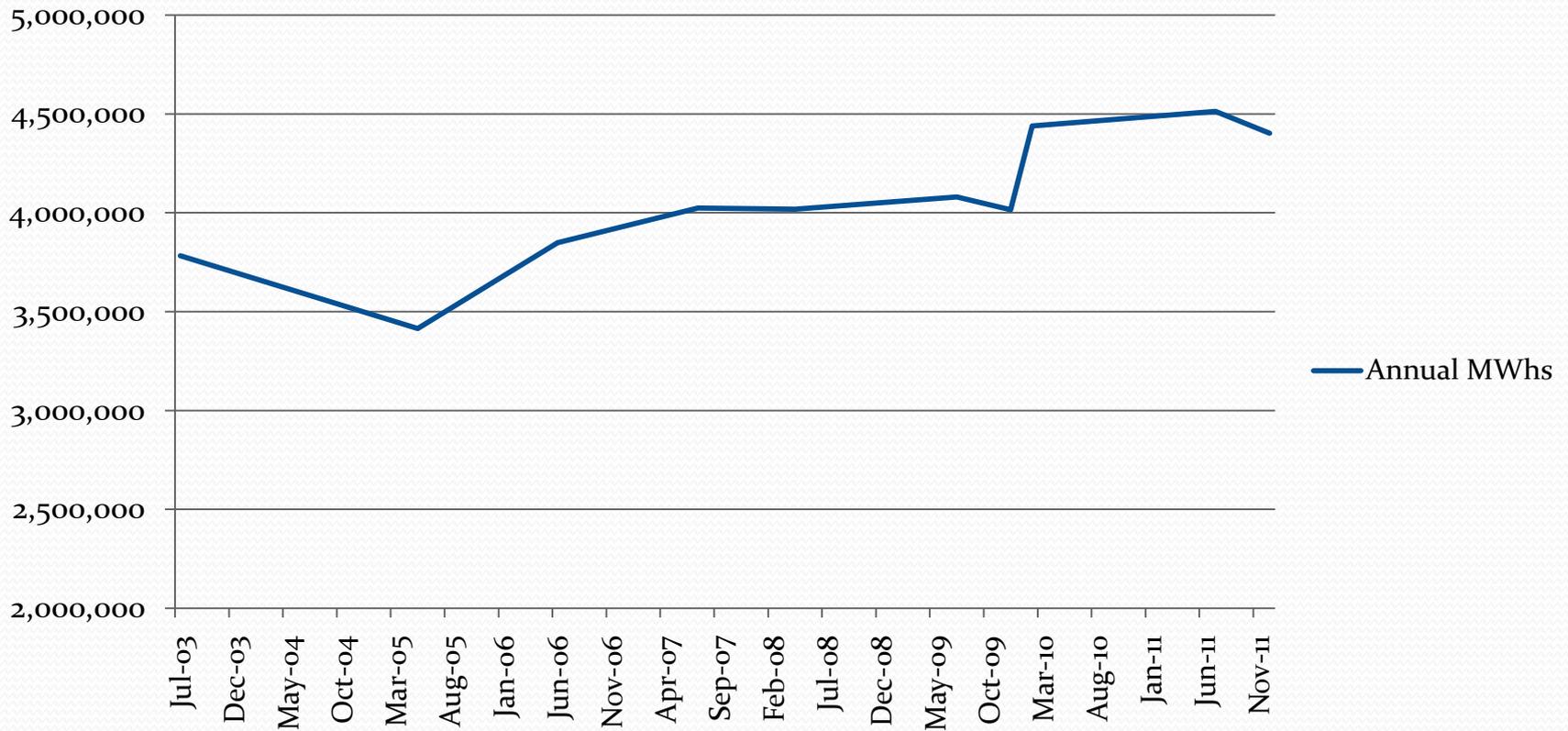
Ken Shutika, GSA, Energy Division

GSA Public Buildings Service

- GSA acts as a Government asset owner
- GSA owns 1,600 buildings and leases 7,100 buildings totaling 339 million sq.ft.
- GSA PBS has approx. 5,500 employees
- GSA purchases natural gas and electricity on a competitive basis for GSA and other agencies as a non-mandatory source as well as renewable energy
- GSA establishes areawide contracts with regulated utilities

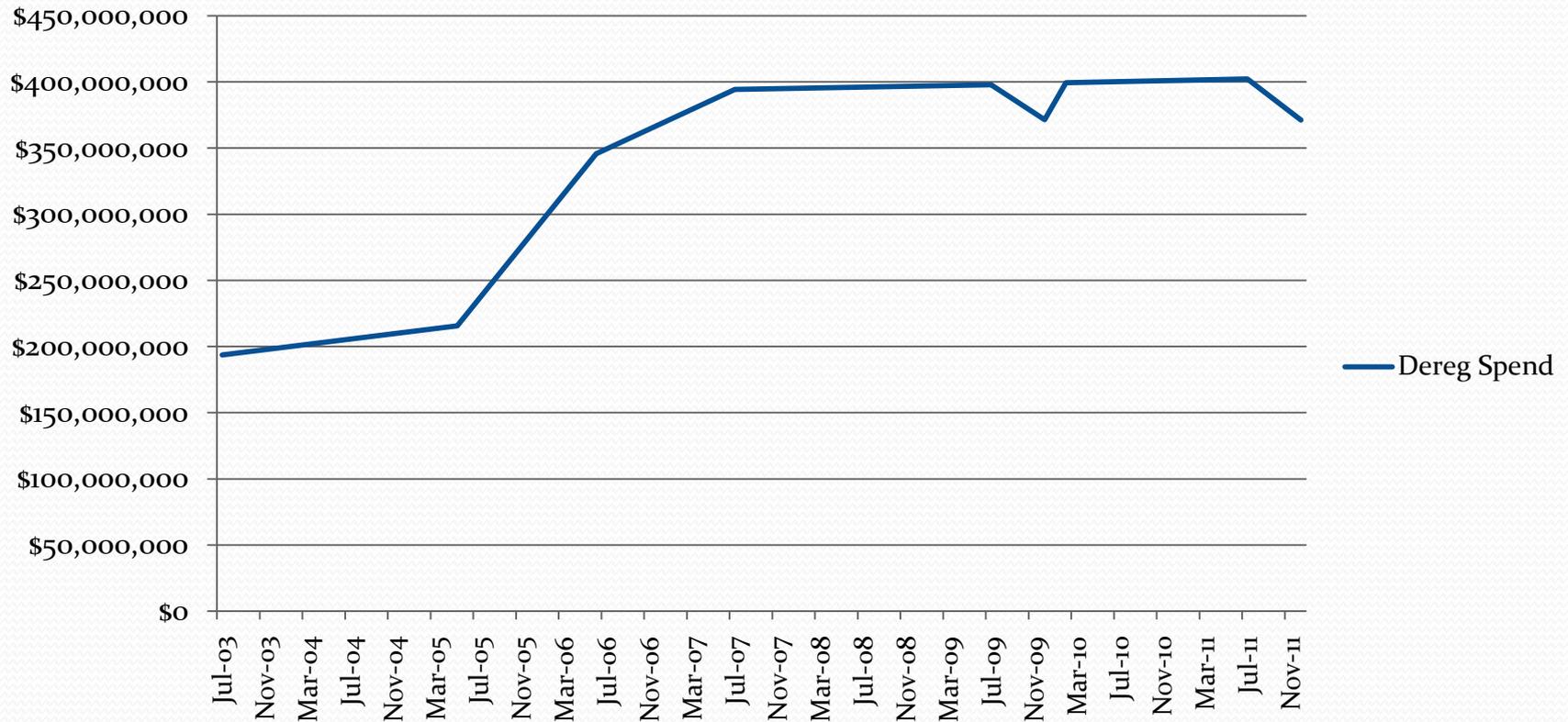
GSA Electricity Contracts Over Time

Annual MWhs



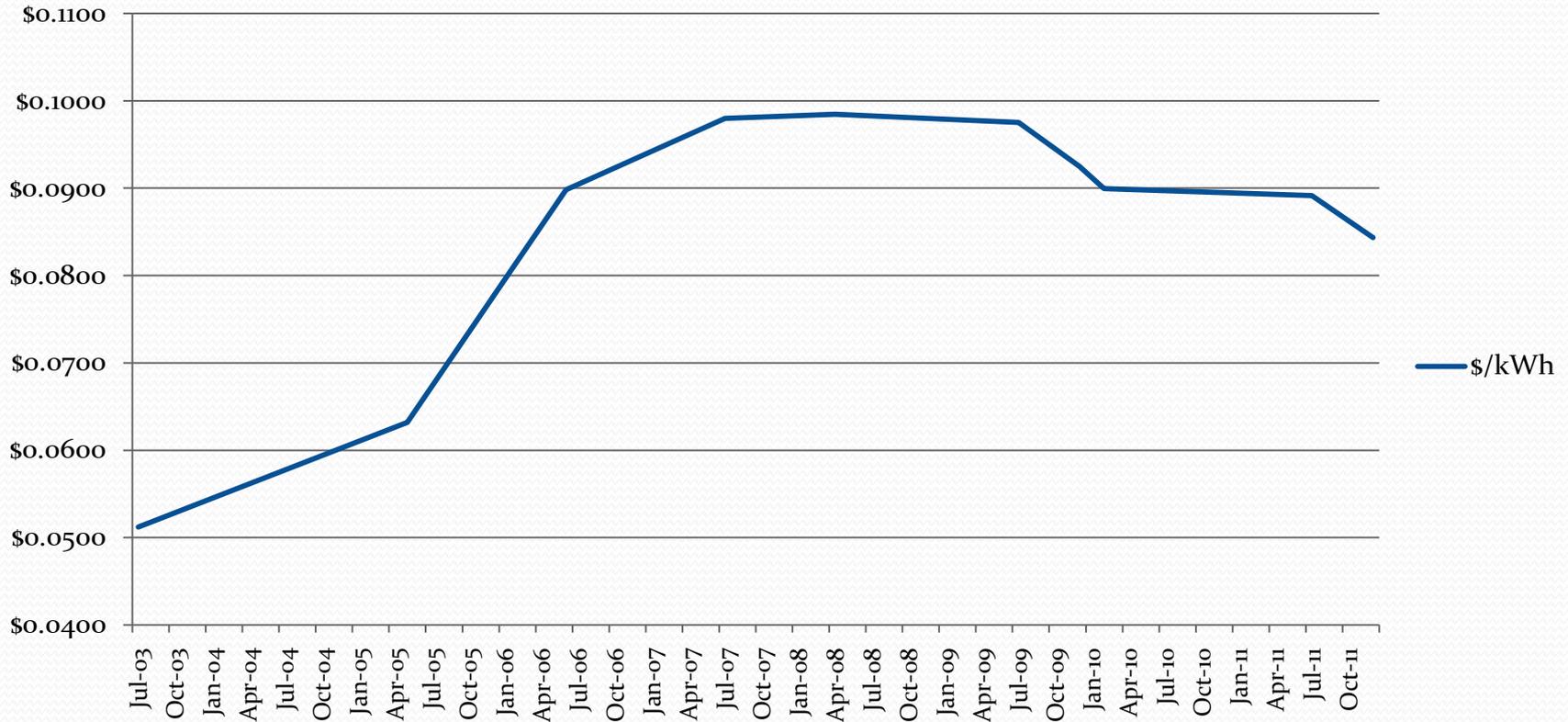
GSA Electricity Contracts Over Time

Contract Value



GSA Electricity Contracts Over Time

\$/kWh



Outline

- Energy Market Overview
- Electric Supply Purchasing
- Solicitation Features
- Trends/Thoughts
- Conclusion

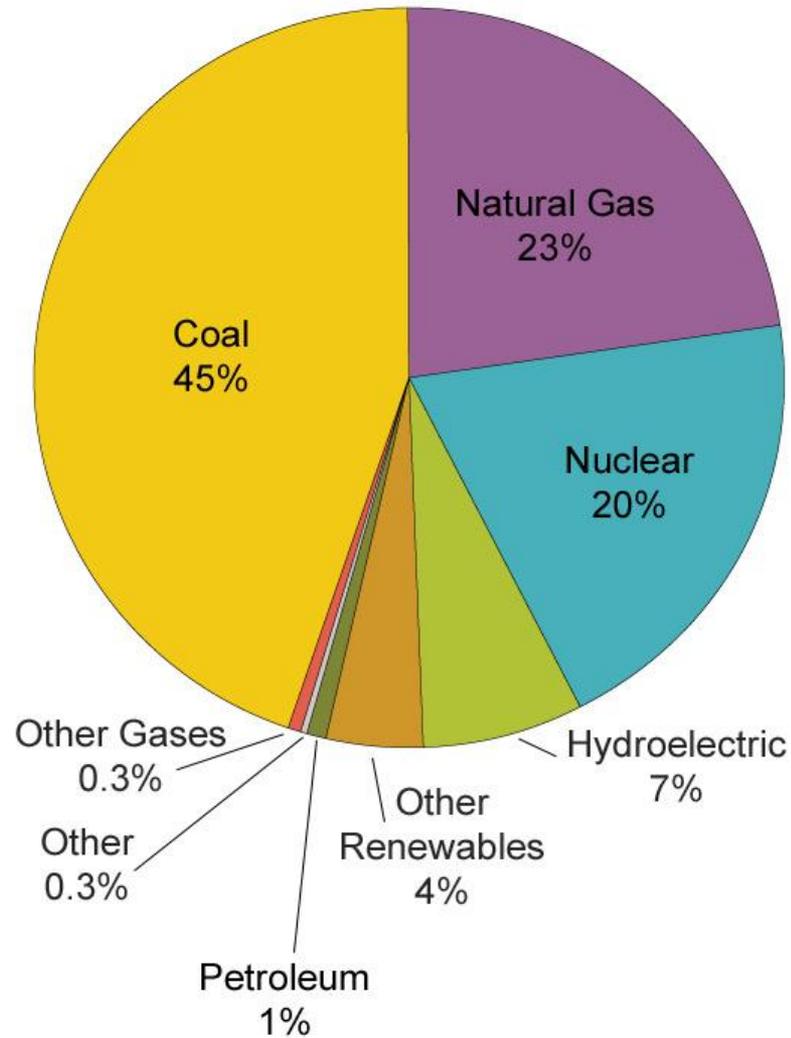
Energy Market Overview

- Nationally, fundamental division between restructured (i.e. deregulated) and non-restructured states
- Retail customers in restructured states can select electric suppliers other than the local utility including renewable products
- Retail customers in fully regulated states are required to purchase electric supply from the local utility

Energy Market Overview

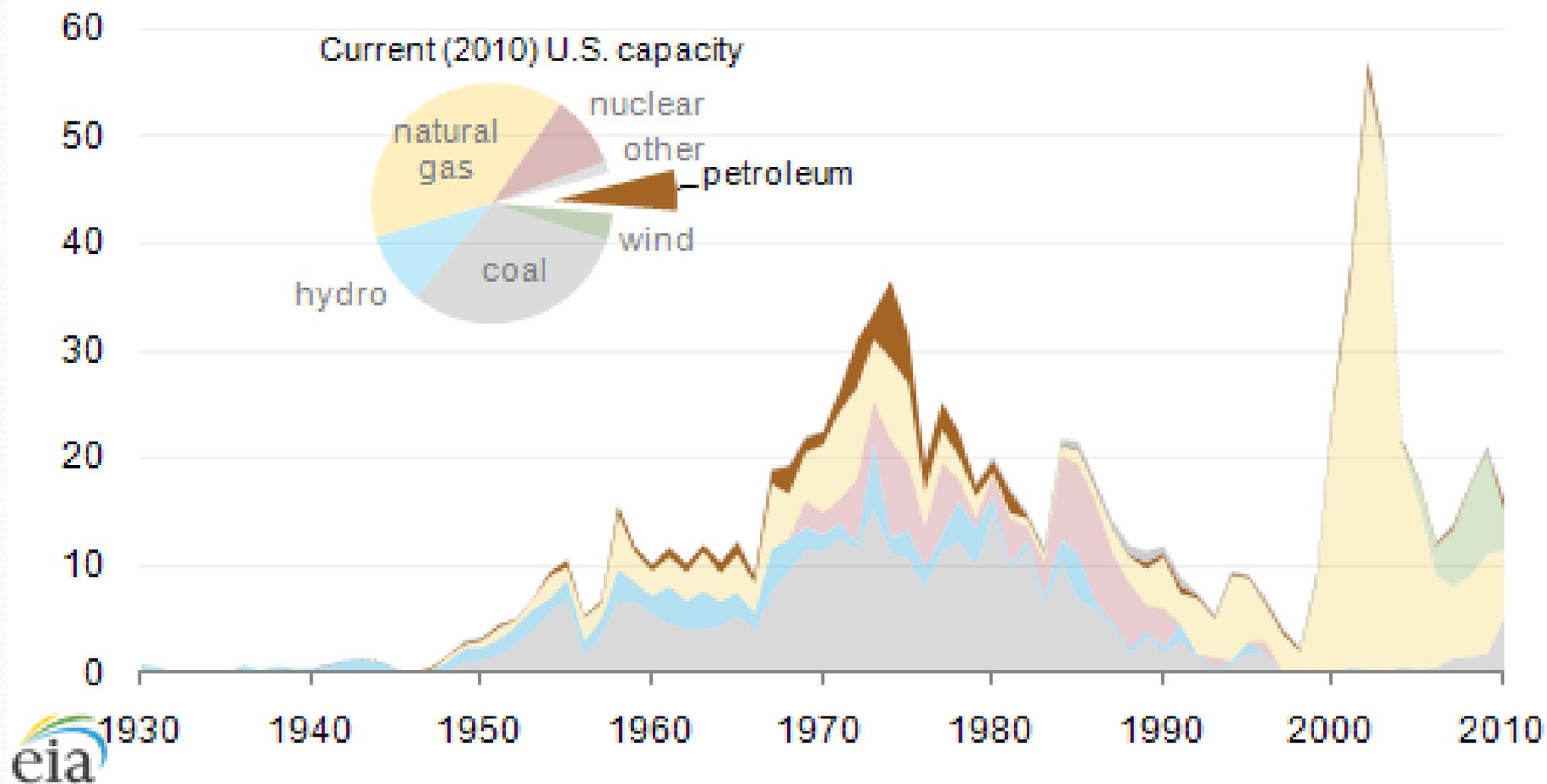
- Oil, natural gas and electricity are the 3 primary energy commodities in the U.S.
- These energy commodities are highly volatile
- Price movements in one commodity generally affect prices in other energy commodities
- Prices are affected by numerous factors including supply and demand, international/domestic events, weather, U.S. dollar and speculators/hedge funds
- Oil is a transportation fuel in the U.S.
- Natural gas is both a heating fuel and a significant generation fuel
- Natural gas & electric prices highly correlated

U.S. Electric Power Industry Net Generation by Fuel, 2009



Source: U.S. Energy Information Administration, *Annual Energy Review 2009* (August 2010).

Current (2010) capacity by initial year of operation and fuel type gigawatts



Energy/Electricity Prices

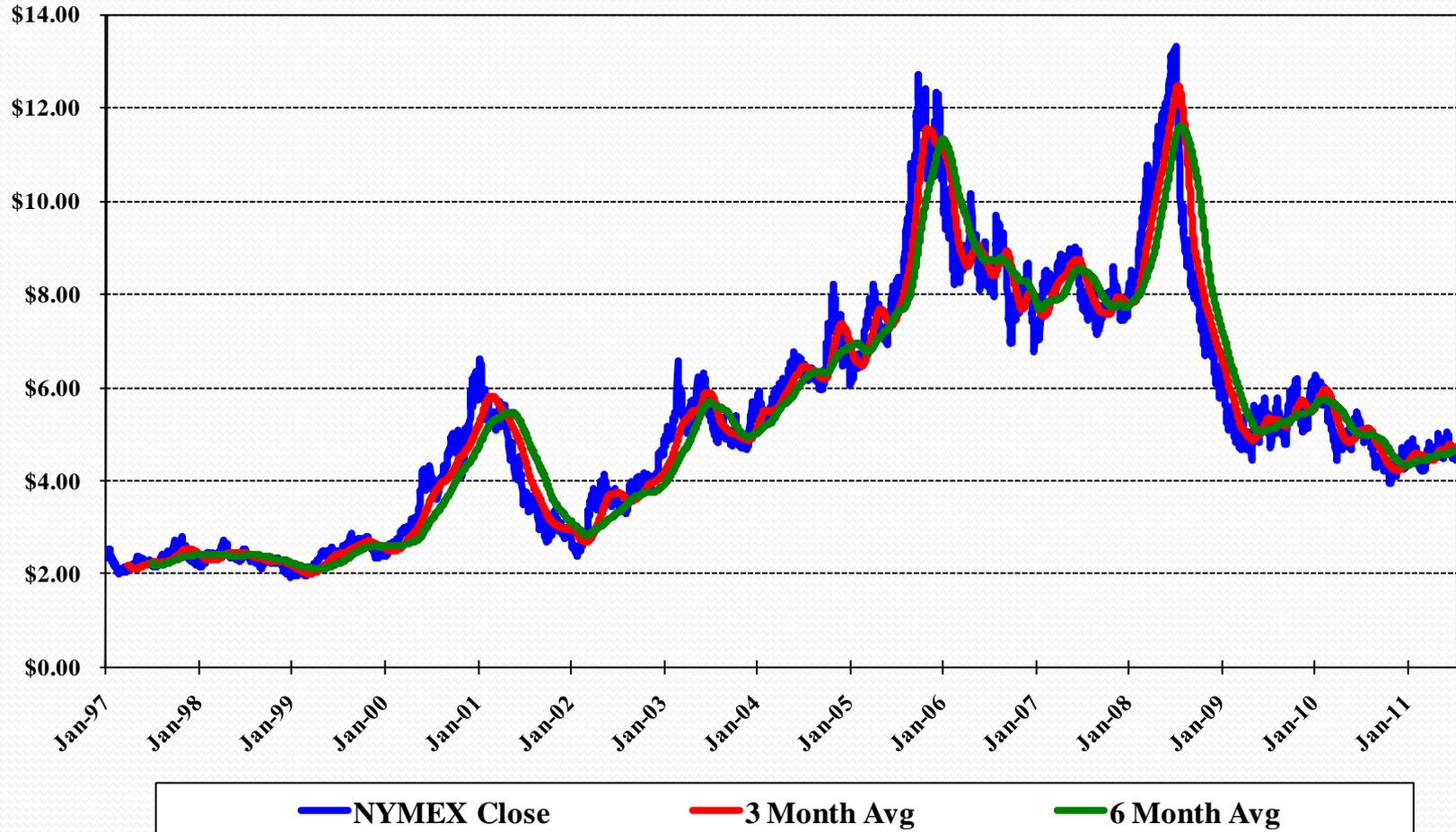
- Volatility – pricing has been volatile the last several years, however, relatively stable since 2009
- Correlation – because natural gas is the marginal fuel for electricity, natural gas and electricity prices have become highly correlated particularly for on peak time periods
- The following charts illustrate

Natural Gas, Henry Hub

Forward Market (NYMEX) 12 month Strip

Report Date: 7/15/2011

\$/MMBtu



Electric Forward Market Report

Front Year On-Peak (5x16) - PJM Western Hub

Report Date: 7/15/11



GSA Solicitation Features

- Indefinite quantity indefinite delivery requirements contract
- Generally some form of fixed price
- Capacity and transmission pass-through in certain markets
- A supply (not a service)
- Delivery to local utility's system
- Bandwidth language (plus or minus 10% typical)
- Change in regulation and taxes addressed

GSA Solicitation Features

- Term – 1 to 5 years
- Billing – consolidated bill or dual bill
- Difficult to price option years
- Must provide suppliers with complete account usage info
- Minimum renewable power percentage

GSA Pricing

- Generally price an aggregate group of accounts under a single price that applies to all accts in the group (i.e. aggregate price)
- Can price on an individual account basis
- Several forms of firm, fixed price
- Mimic the utility's pricing structure (makes for easy comparison) for your rate class
- Flat \$/kWh price with capacity pass-through
- Time of use pricing
- Fixed margins in block and index approach
- Must act on prices quickly (1-3 hours)

GSA Pricing

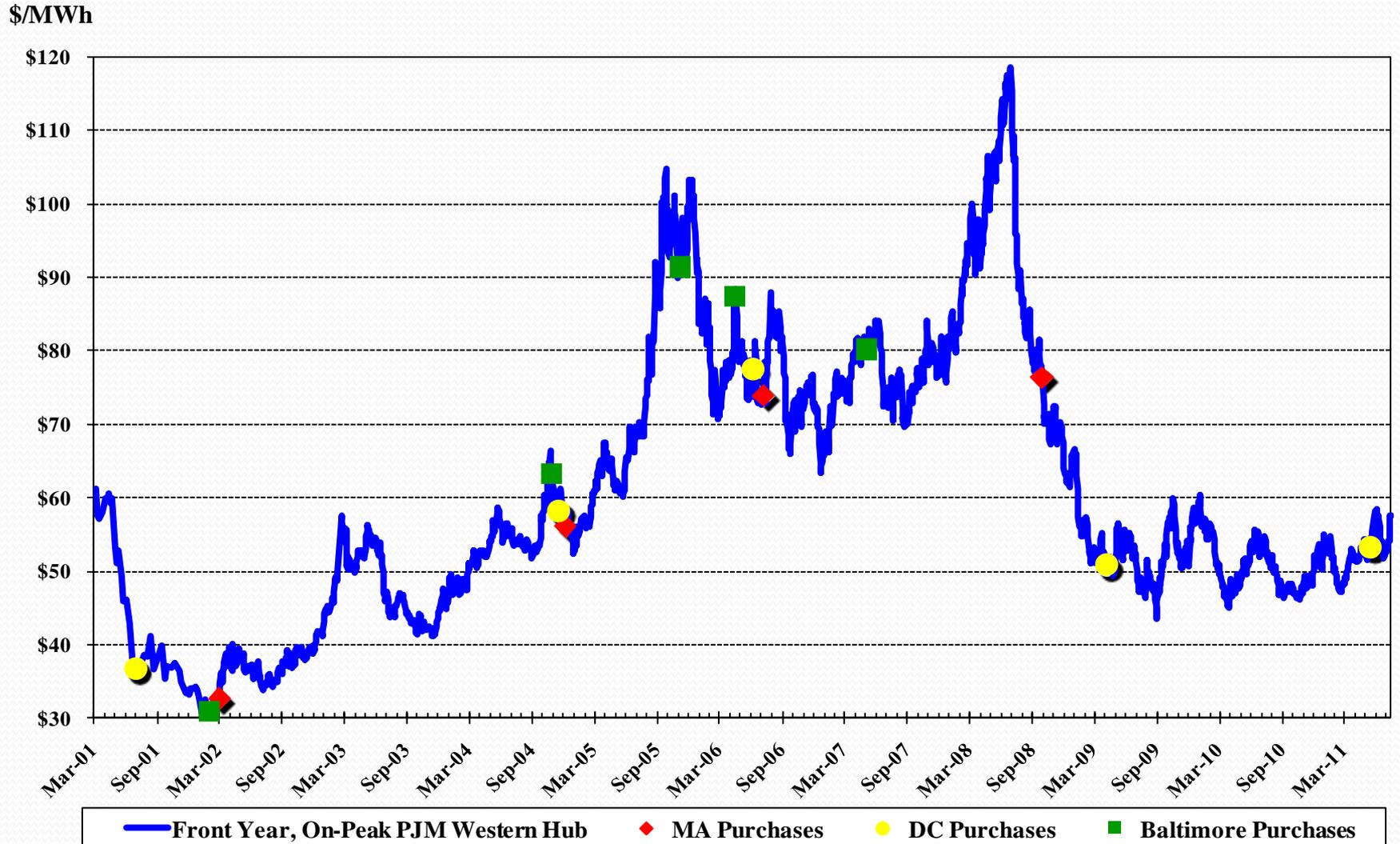
- GSA uses 2 ways of obtaining prices
- “Old Fashioned” method where firms email/fax in prices to GSA for evaluation
- Reverse Auction Process - internet based interactive platform where suppliers bid against each other to offer lowest price
- Prices remain good for 1-3 hours in each approach depending upon the terms of the solicitation
- Both pricing approaches have proven effective for GSA

Market Timing

- If you are purchasing a fixed price product, **WHEN** you buy **IS** the largest factor in the price you obtain because **WHEN** you buy largely determines your price
- Attached are some slides that plot when we have locked prices for Washington, DC, Baltimore and Massachusetts over the past several years

GSA Electric Contract Timing

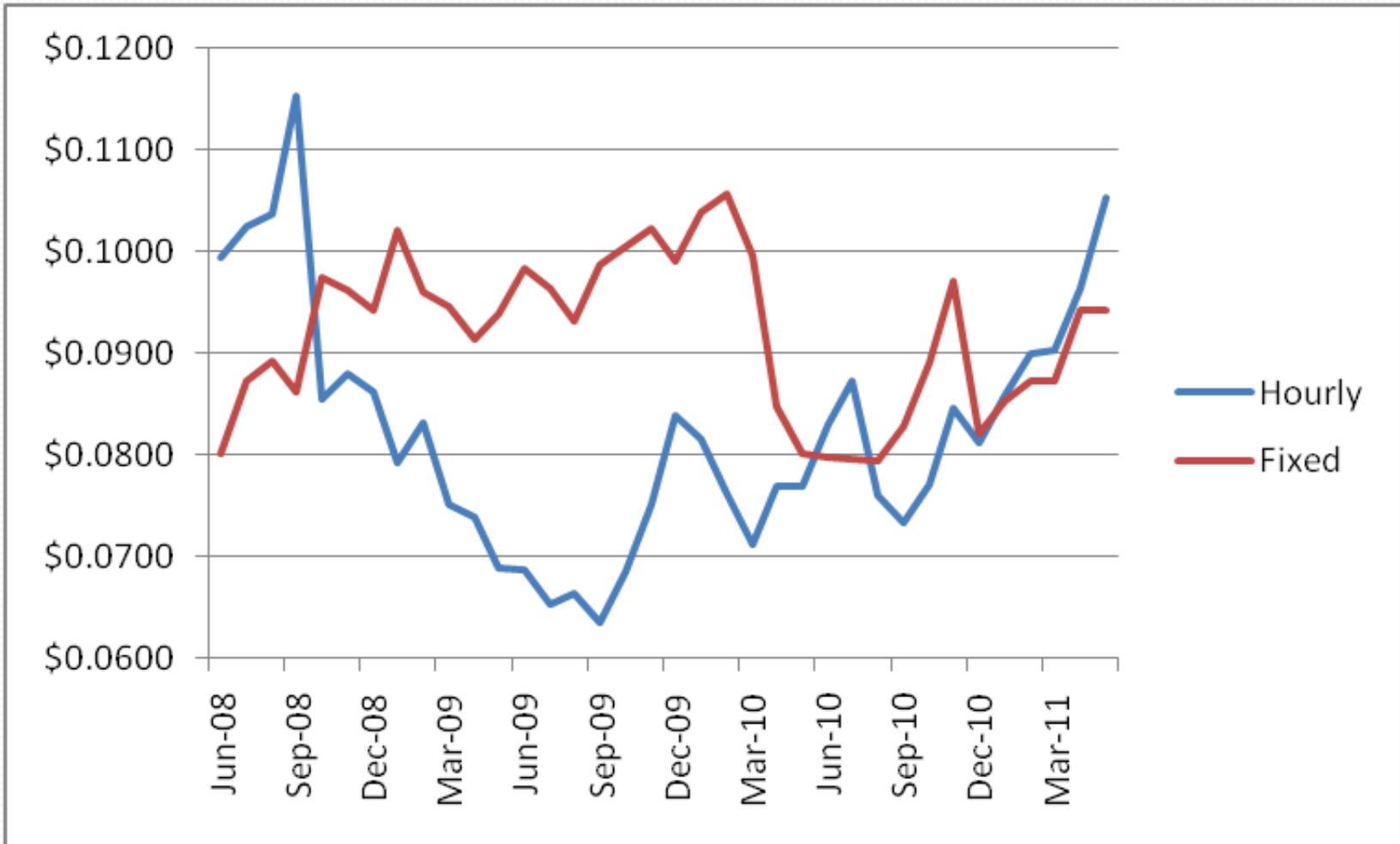
As of 7/20/11



Hourly Pricing

- Tracks hourly prices up and down
- Over time, it is the lowest price approach as it has the least supplier mark-up
- It is volatile and can result in high prices over shorter periods of time
- Can usually convert to fixed price quickly
- Useful if facility has unpredictable usage or unique load shedding capabilities
- Attached is comparison of 2 GSA buildings in Pittsburgh – one that is on hourly pricing and the other on a fixed price

Pittsburgh Hourly vs. Fixed



Issues/Trends

- Proliferation of demand response programs
 - Should we include in supply contract or contract separately?
 - Must understand DR rules to ensure maximum benefit
- Smart building/smart grid initiatives
 - To realize energy benefits may need real-time pricing
 - Need to coordinate supply contracts with building investments
- Federal budget moving forward
 - Pressure to lower all costs including utility costs
 - Reduced staffing – prospects of losing energy expertise (already a niche area in the Government) moving forward
 - Less money to hire consultants to fill in gaps
- Small business involvement in energy supply contracts

Goals

- Make sure you know what your goals are right up front
- To beat the utility price?
- Budget stability over time that the utility does not offer?
- Lowest price?
- How much price risk you are willing to assume?
- To align building capabilities with supply contract?
- Renewable/environmental goals you may want to meet?

Conclusions

- Every state/utility is a different market so a “one size fits all” approach is difficult
- High prices make saving energy at all times more important than ever but especially during summer peaks
- Let us know what you need

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