



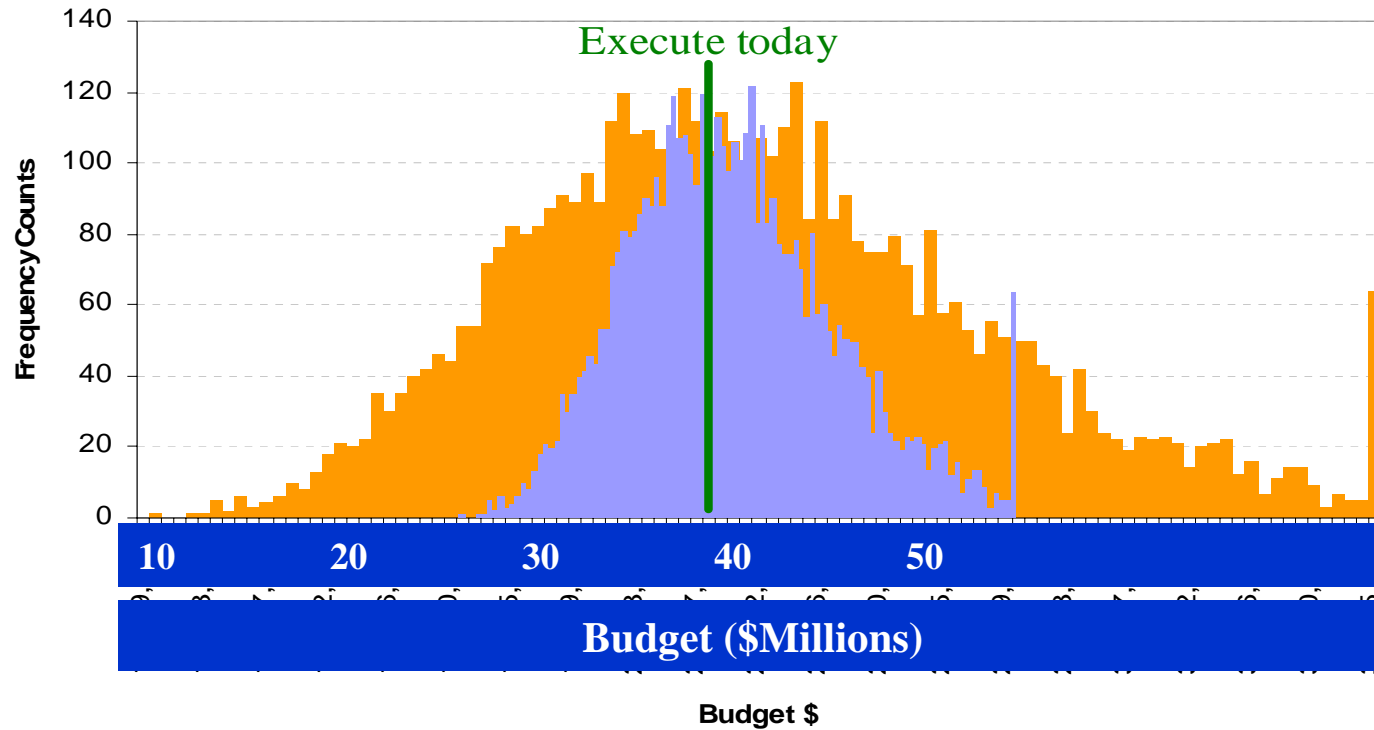
Northwest Industrial Energy Conference

Jeff Bush

Sempra Energy Solutions

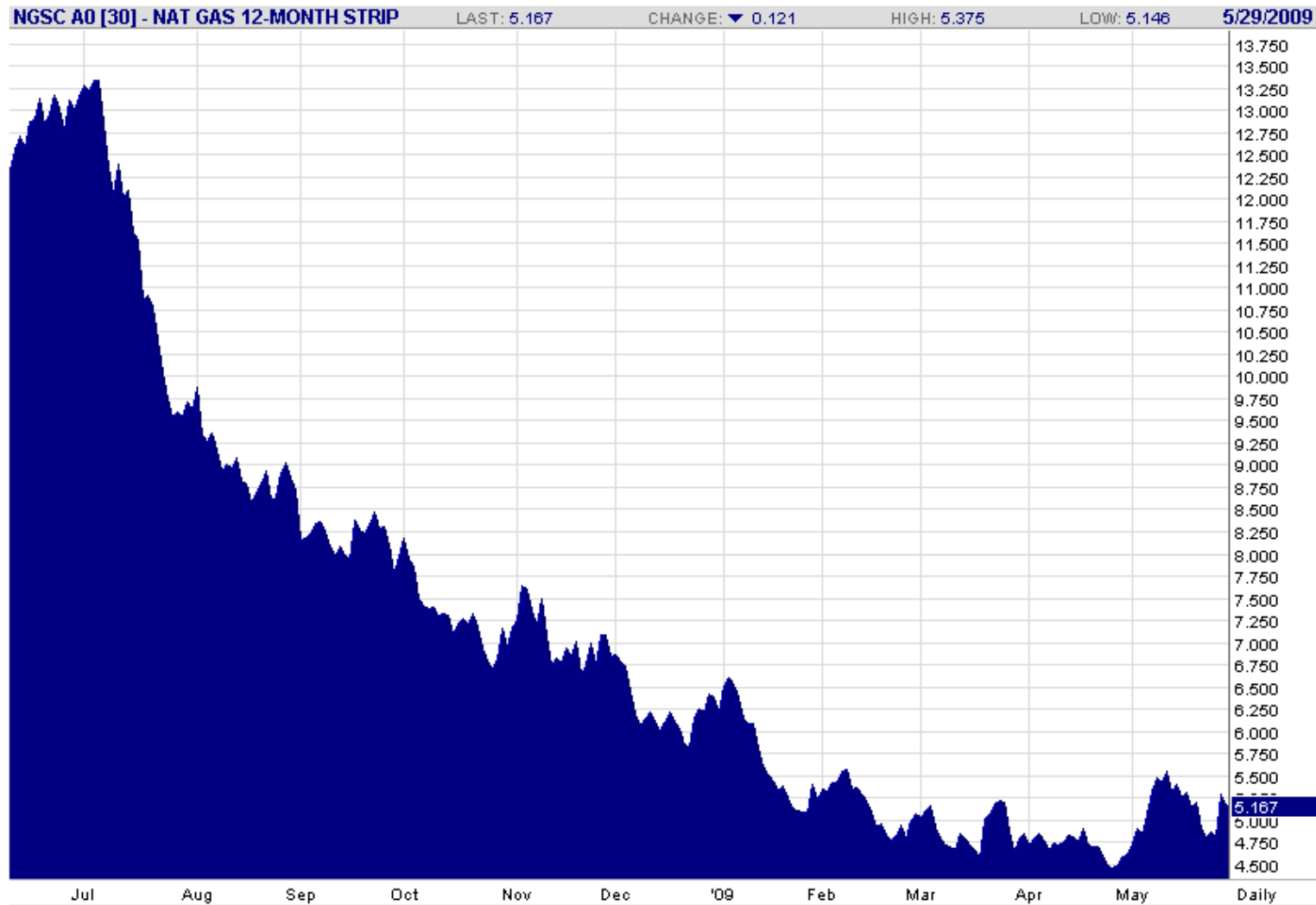
June 4, 2009

Impact of Risk Management



- Hedge 0% of the total annual consumption
- Hedge 50% of the total annual consumption

Gas Strip – Rolling 12 Months



Source: www.futuresource.com

Gas strip – Longer View



Source: www.futuresource.com

Gas Cost – Causes of Volatility

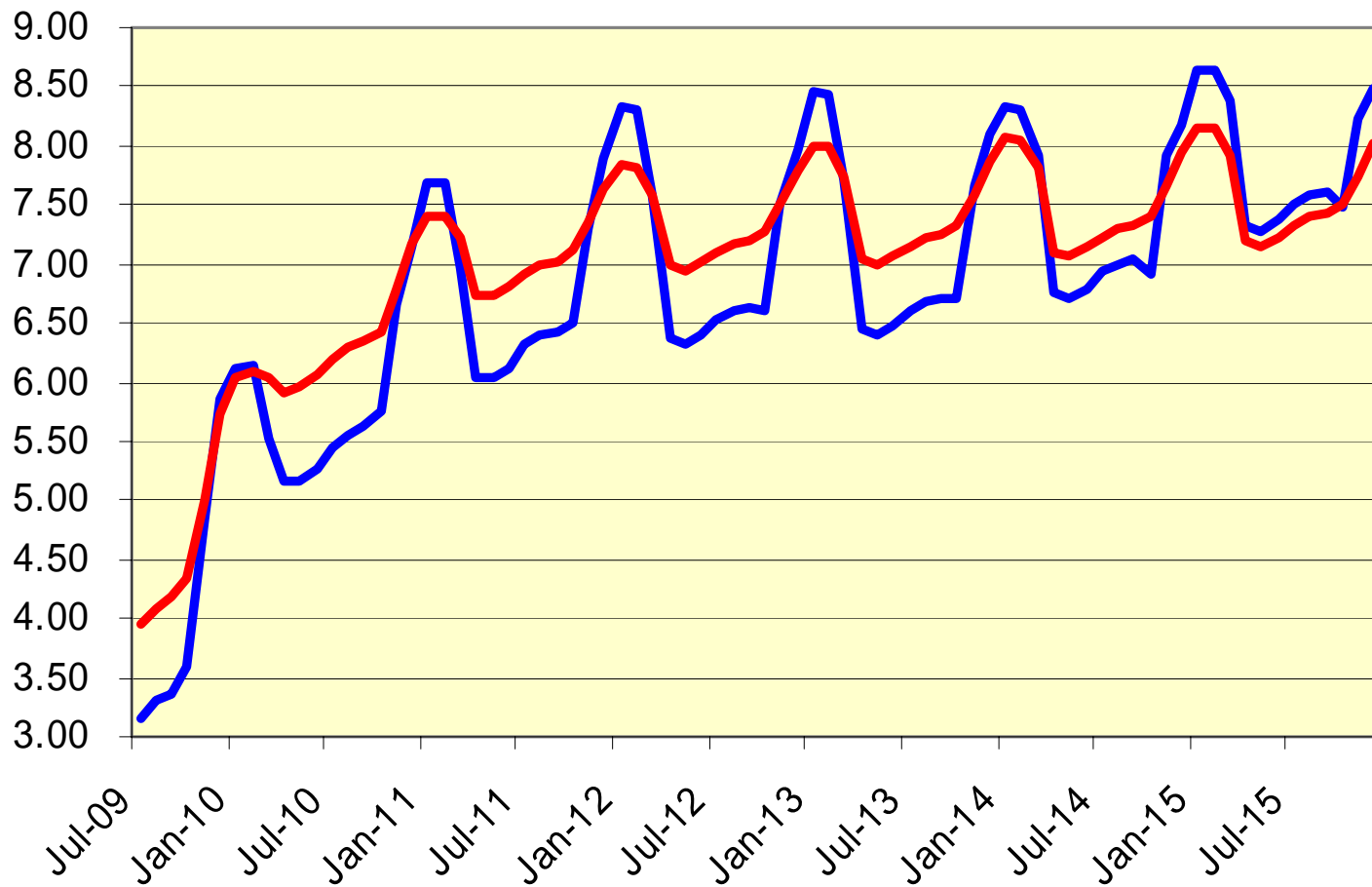
- Gas storage may be filling up
 - Maximum capacity could be reached
 - Current inventory 22% above five year average
- LNG deliveries and imports falling
 - International spot prices to US spot prices
 - LNG import capacity available
- Significant production from new wells
 - Rig counts down significantly
- Disruptive events increase volatility
- Electric Utility gas demand is falling
 - Economic and industrial decline are drivers
 - But coal to gas fuel switching could continue
- United States Natural Gas Fund (“UNG”)

Gas Cost – Causes of Volatility

- Gas Demand about 66 Bcfd annually
 - Residential / Commercial about 34%
 - UEG and Industrial – about 27% each
 - Residual – pipeline fuel use, exports
- Domestic Production about 57 Bcfd
 - Production up 2 Bcfd (Feb 09 versus Feb 08)
 - Rig count down 54% since August
 - Pipeline imports and LNG make up balance
- Prices – looking for a bottom?
 - May NYMEX settlement (\$3.21) – lowest since 2002
 - Other commodities have risen lately – oil, metals

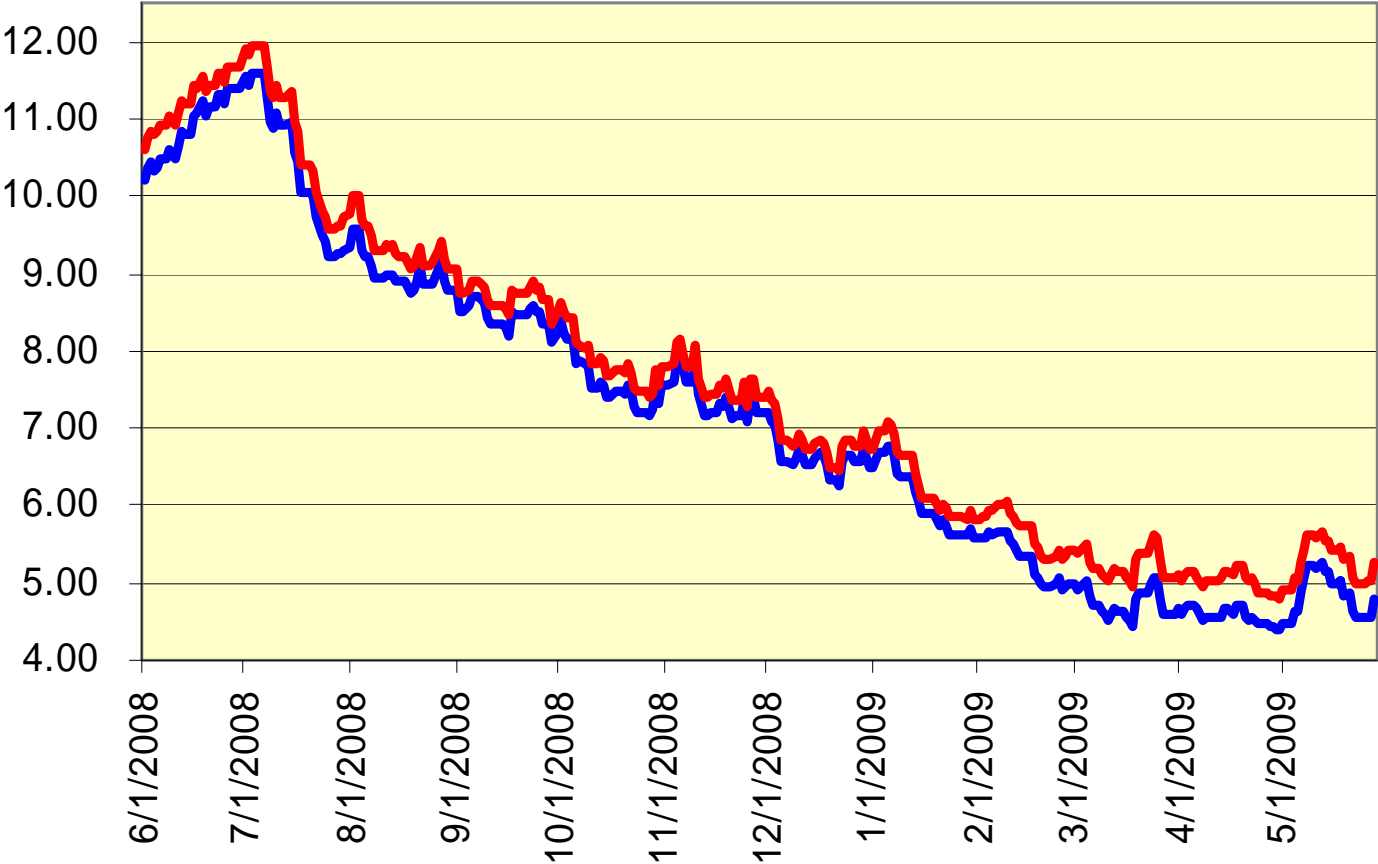
Gas Prices – Forward Curves

Forward Curves for **Sumas** and **NYMEX**

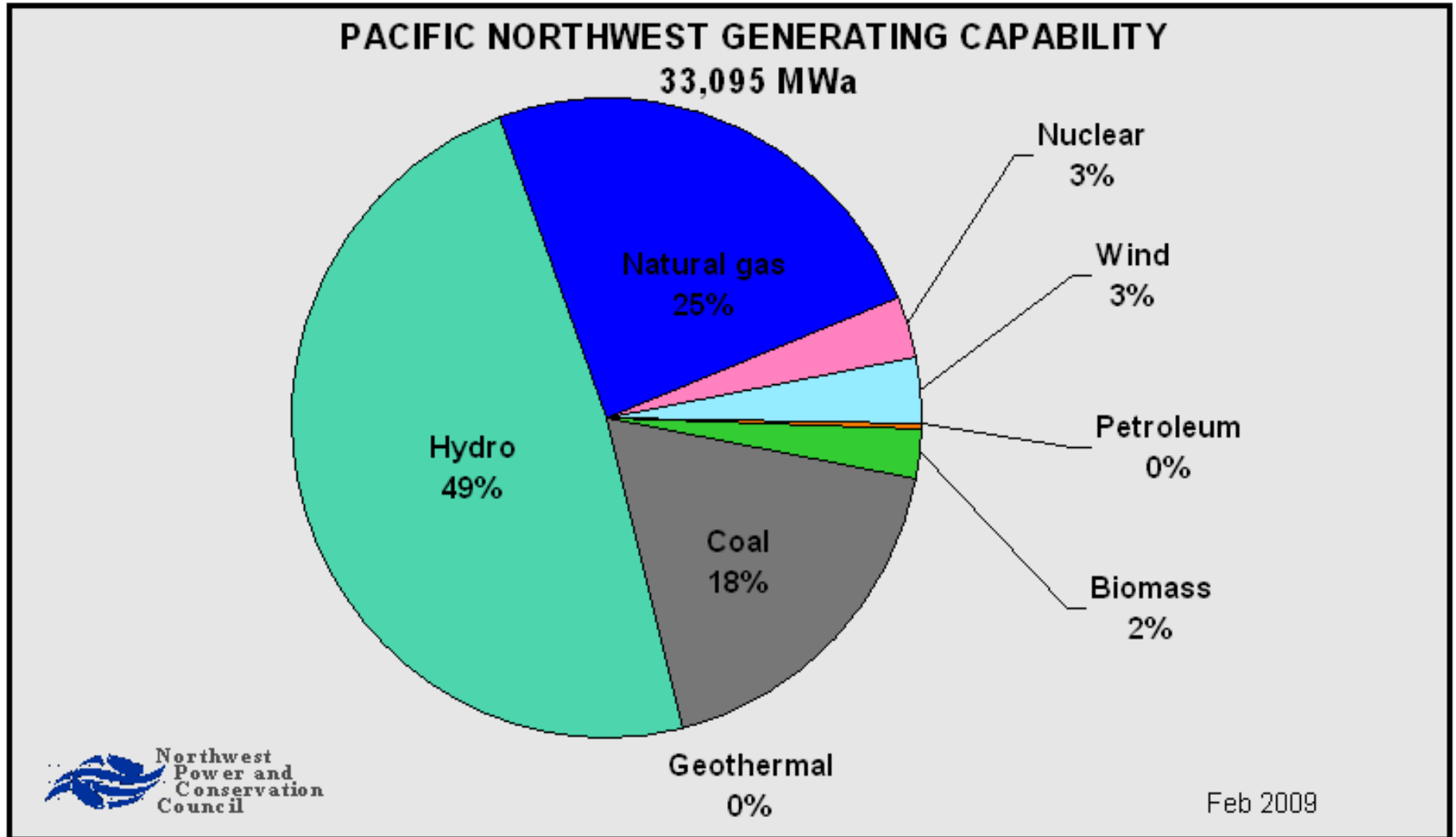


Gas Prices – 12 Month Strip

Sumas and NYMEX, July 09 through June 10



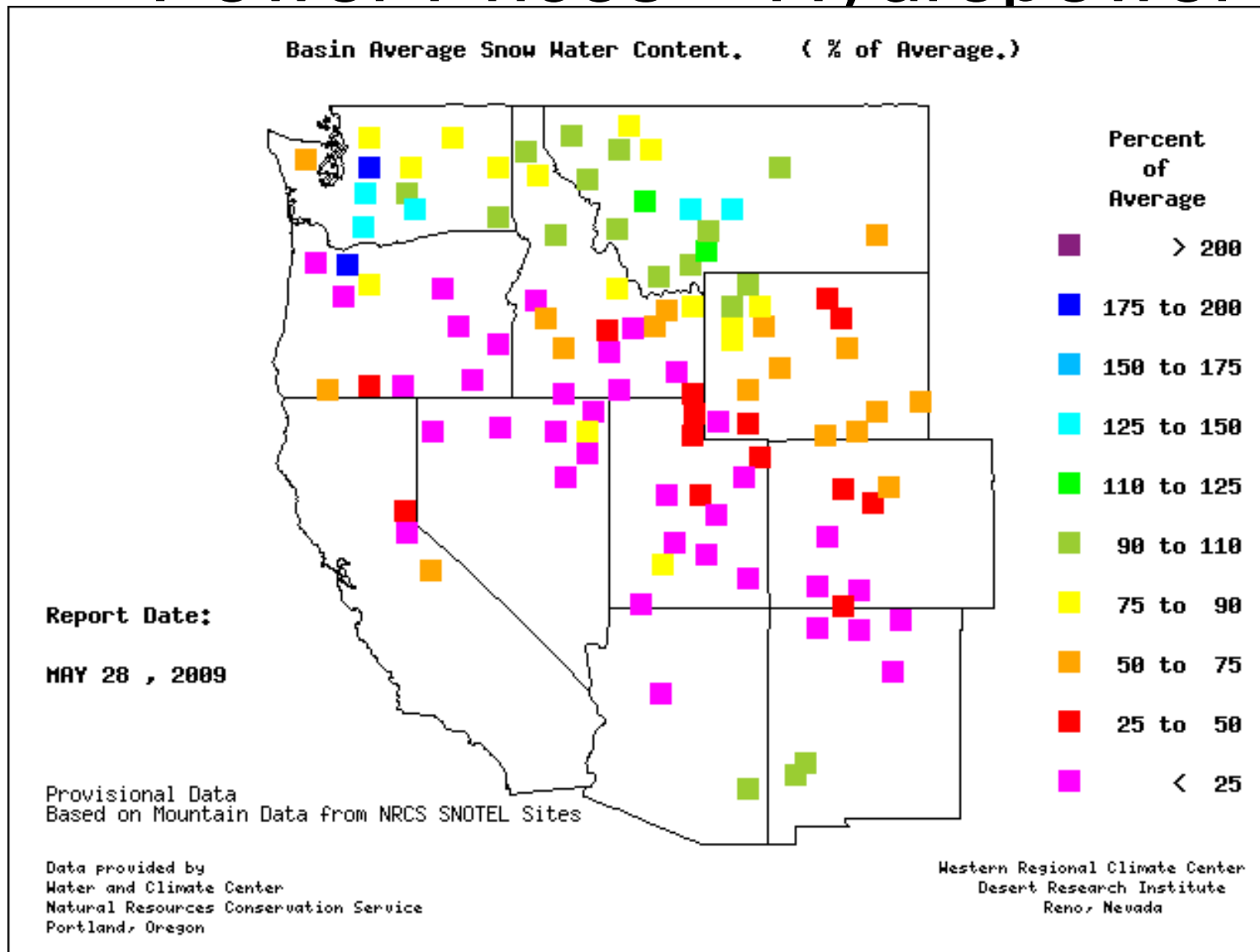
Electricity Generation Sources



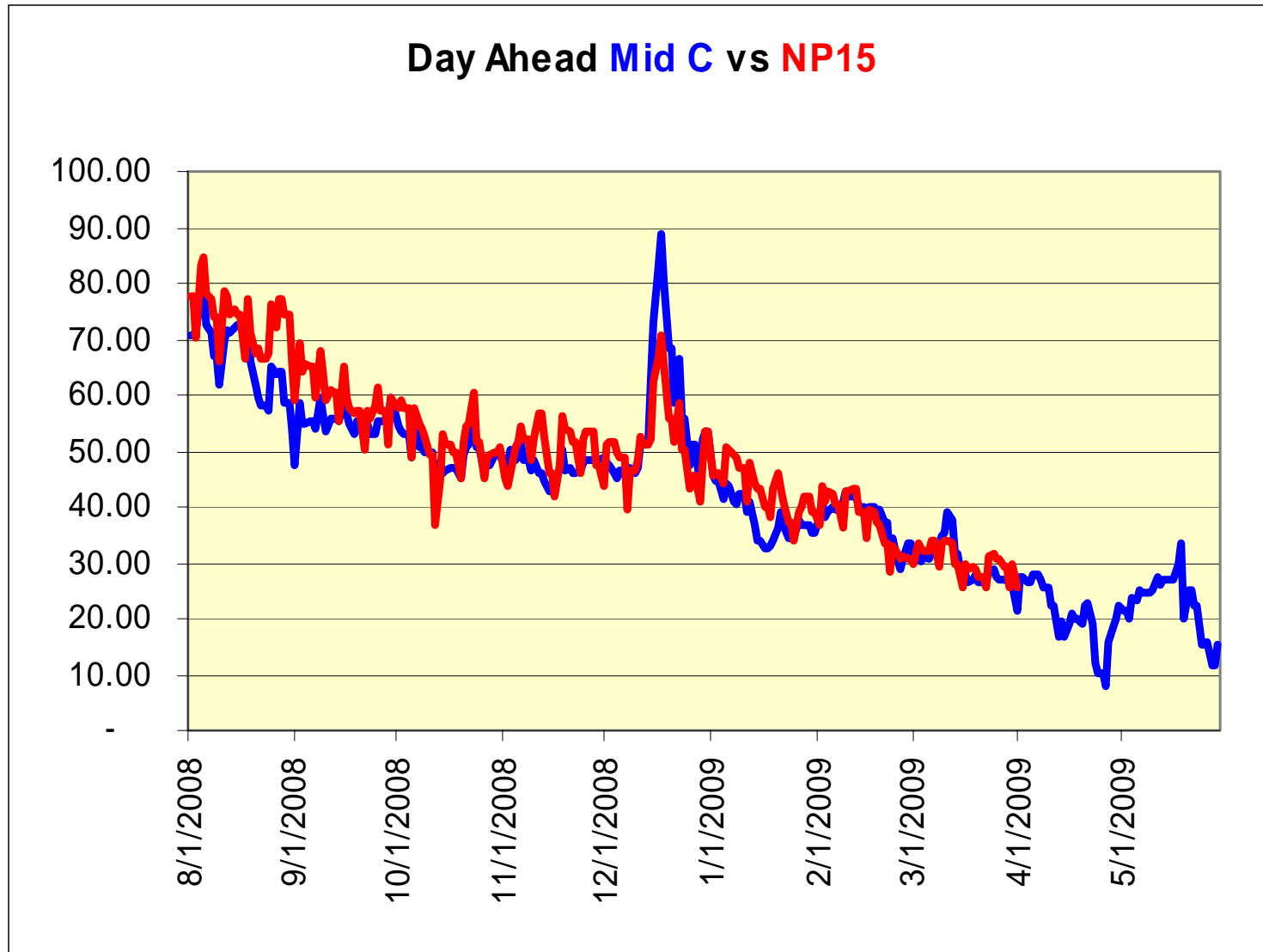
Power Prices - Price Drivers

- Resource Mix – varies by market
 - Gas more volatile, incremental fuel source
 - Integration of renewables (wind)
 - Coal, nuclear – prices more stable
- Hydropower Availability
 - Weather (rainfall dependent)
 - Environmental issues – fish, agriculture
- Local Demand
 - Load shape, peak demand, comfort cooling
 - Local economic impacts

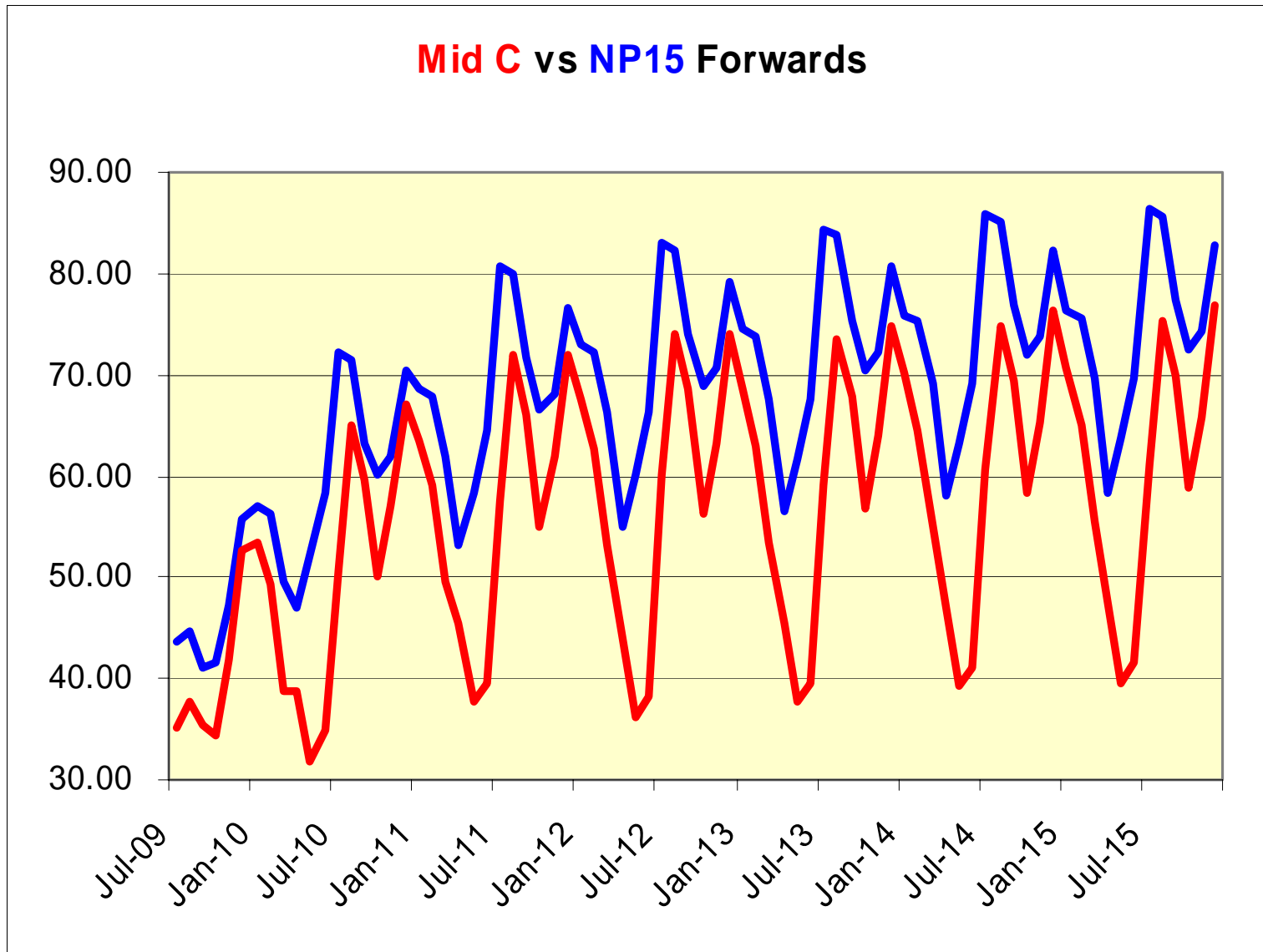
Power Prices – Hydropower



Power Prices – Recent Spot Prices

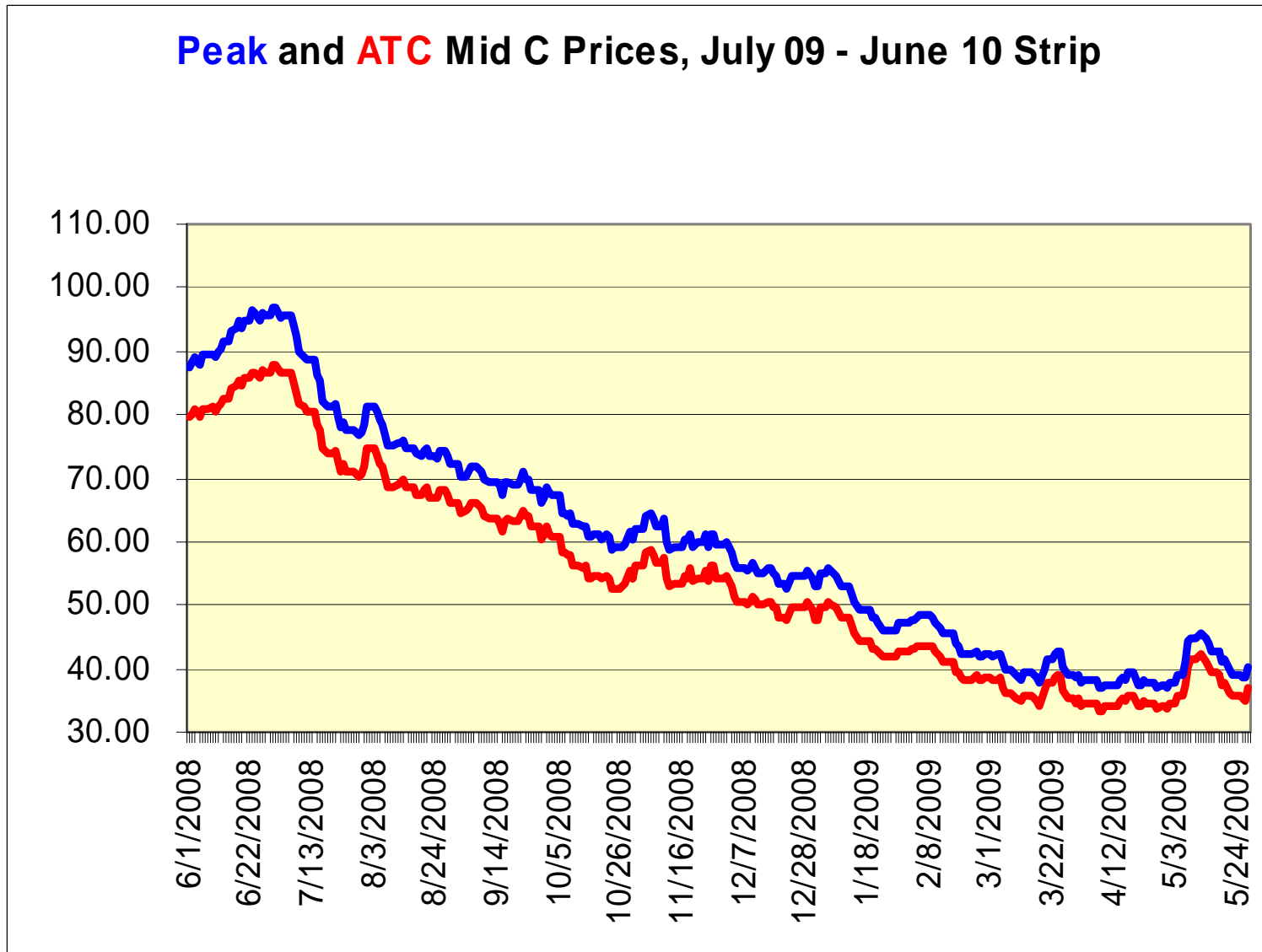


Power Prices - Forward Curves



Power Prices – 12 Month Strip

Peak and ATC Mid C Prices, July 09 - June 10 Strip



Electric Procurement Alternatives

- Portland General Pricing Plans
 - Annual Cost of Service
 - Daily – Mid C prices plus wheeling and losses
 - Monthly Pricing
- Direct Access Service
- Shopping Credit
- Selection Periods
 - Quarterly windows – next is August 15th for Oct 1 start
 - Annual enrollment period in November

On-Site Gen Considerations

- Energy Consumption
 - Electricity use relative to steam/chilled water
 - Relatively flat thermal and electricity loads
- Energy Costs
 - Fuel costs relative to electricity
 - Steam, chilled / hot water benefits
- Power Reliability
 - Cost of interruption
 - Cost of back-up generation equipment
- Green power – wood chips, waste fuel, wind

Sempra Energy Solutions

- Part of a Joint Ventures involving
 - The Royal Bank of Scotland also known as RBS
 - Sempra Commodities a subsidiary of Sempra Energy
- Large provider of direct access electricity services
- About Sempra Energy
 - Owns gas pipelines, LNG gasification facilities
 - Merchant Power plants and utilities
 - Strong investment grade bond rating
- About the Royal Bank of Scotland
 - One of the largest banks in the world

