ARR/FTR Market Update:
ATC Customer Meeting

August 20, 2009

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Agenda

- ARR Allocation
- FTR Annual/Monthly Auction
- Challenge

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Allocation Overview

- 101 Market Participants took part in the 2009-2010 Annual ARR Allocation
- A total 584765.5 MWs were nominated over all eight cases in Stage 1
- The total allocation was of 480596.3 MWs in Stage 1
- 82% of total nominated entitlements was allocated in Stage 1
- Total Stage 2 allocation was 451931.2 MWs

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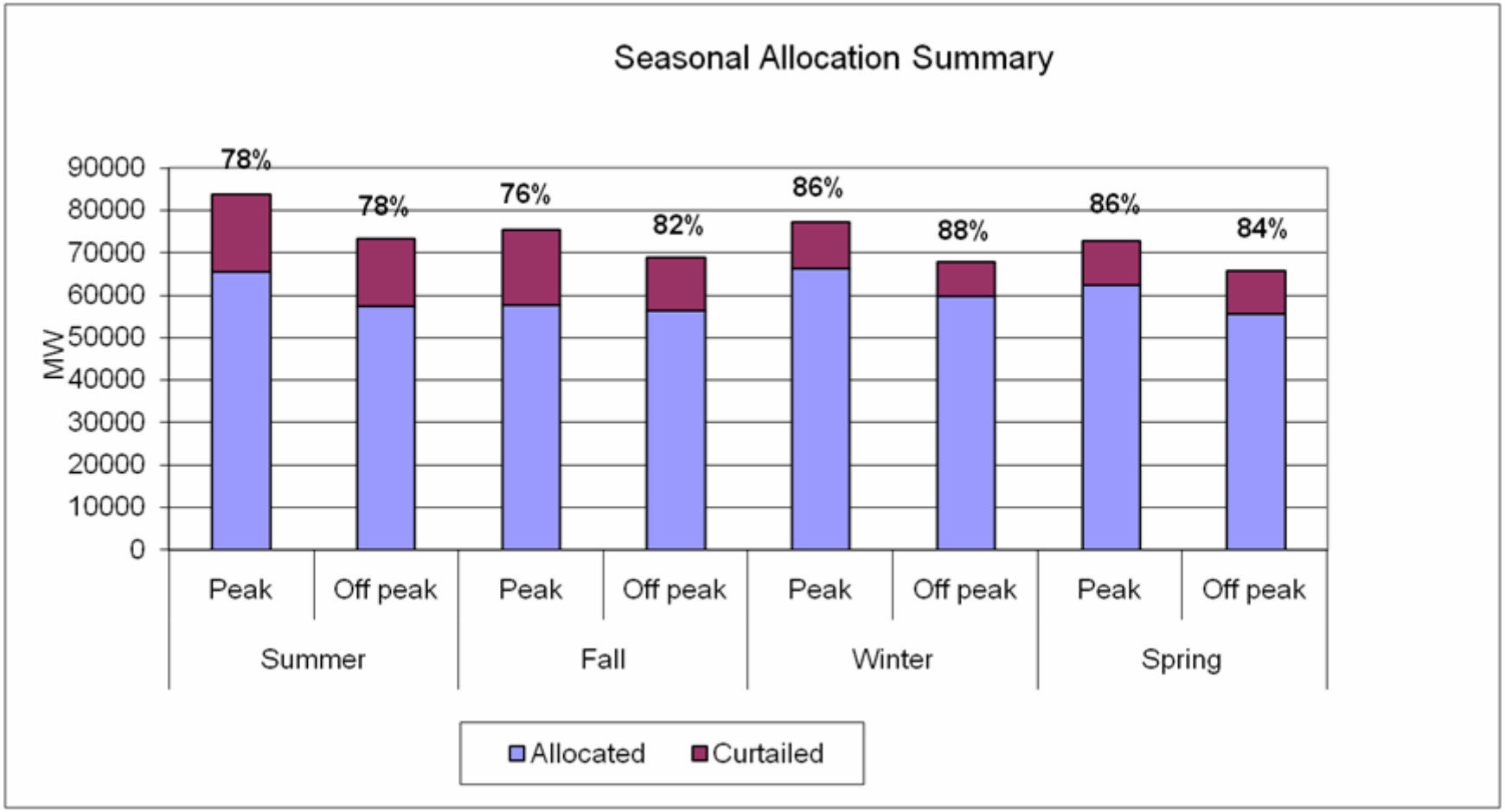
2009 Seasonal Allocation Results – Stages 1A + RES + 1B



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Summary Overview – 2009 Annual Allocation (Stage 1)

	Season	Summer		Fall		Winter		Spring		Total
	TOU	Off peak	Peak	Off peak	Peak	Off peak	Peak	Off peak	Peak	
Stage 1 A	Nominated	52351.3	55717.7	53031.5	54007.3	50226.3	55877.1	49904	53448.6	424563.8
	Allocated	33768.2	48804.6	44180.2	45675.1	45287.3	50889.9	40465.3	47228.4	356299
	Percent	65%	88%	83%	85%	90%	91%	81%	88%	84%
Restoration	Nominated	13688.4	5376.6	5948.8	5660.4	3918.5	3760.1	5680.5	4569.4	48602.7
	Allocated	12842.6	4075.8	3562.2	3999.8	2736	2900.5	5106.3	2876.2	38099.4
	Percent	94%	76%	60%	71%	70%	77%	90%	63%	78%
Stage 1 B	Nominated	20251.3	26137.2	16932	20649.5	17133.2	19241.8	16336.9	18630.6	155312.5
	Allocated	10716.4	12636.7	8617.2	7906	11622.8	12510.5	9931.2	12257.1	86197.9
	Percent	53%	48%	51%	38%	68%	65%	61%	66%	55%
Total	Nominated	73342.5	83798.3	68837.8	75301.6	67824.9	77271.8	65685.4	72703.2	584765.5
	Allocated	57327.2	65517.1	56359.6	57580.9	59646.1	66300.9	55502.8	62361.7	480596.3
	Percent	78%	78%	82%	76%	88%	86%	84%	86%	82%

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ARR Restoration and Counter Flow Summary

	Season	Summer		Fall		Winter		Spring		Total
	Period	**Off peak**	**Peak**	**Off peak**	**Peak**	**Off peak**	**Peak**	**Off peak**	**Peak**	
Restoration	**Nominated**	13688.4	5376.6	5948.8	5660.4	3918.5	3760.1	5680.5	4569.4	48602.7
	Allocated	12842.6	4075.8	3562.2	3999.8	2736	2900.5	5106.3	2876.2	38099.4
	Percent	**94%**	**76%**	**60%**	**71%**	**70%**	**77%**	**90%**	**63%**	**78%**
Counterflow	**Eligible**	9613.4	9748.2	6292.1	8235.2	7535.1	8179.6	10068.3	8387.8	68059.7
	Allocated	4120.2	4248.6	3085.1	3864.6	2146.5	3496.1	2965.3	3409.7	27336.1
	Percent	**25%**	**35%**	**19%**	**28%**	**10%**	**27%**	**20%**	**24%**	**40%**

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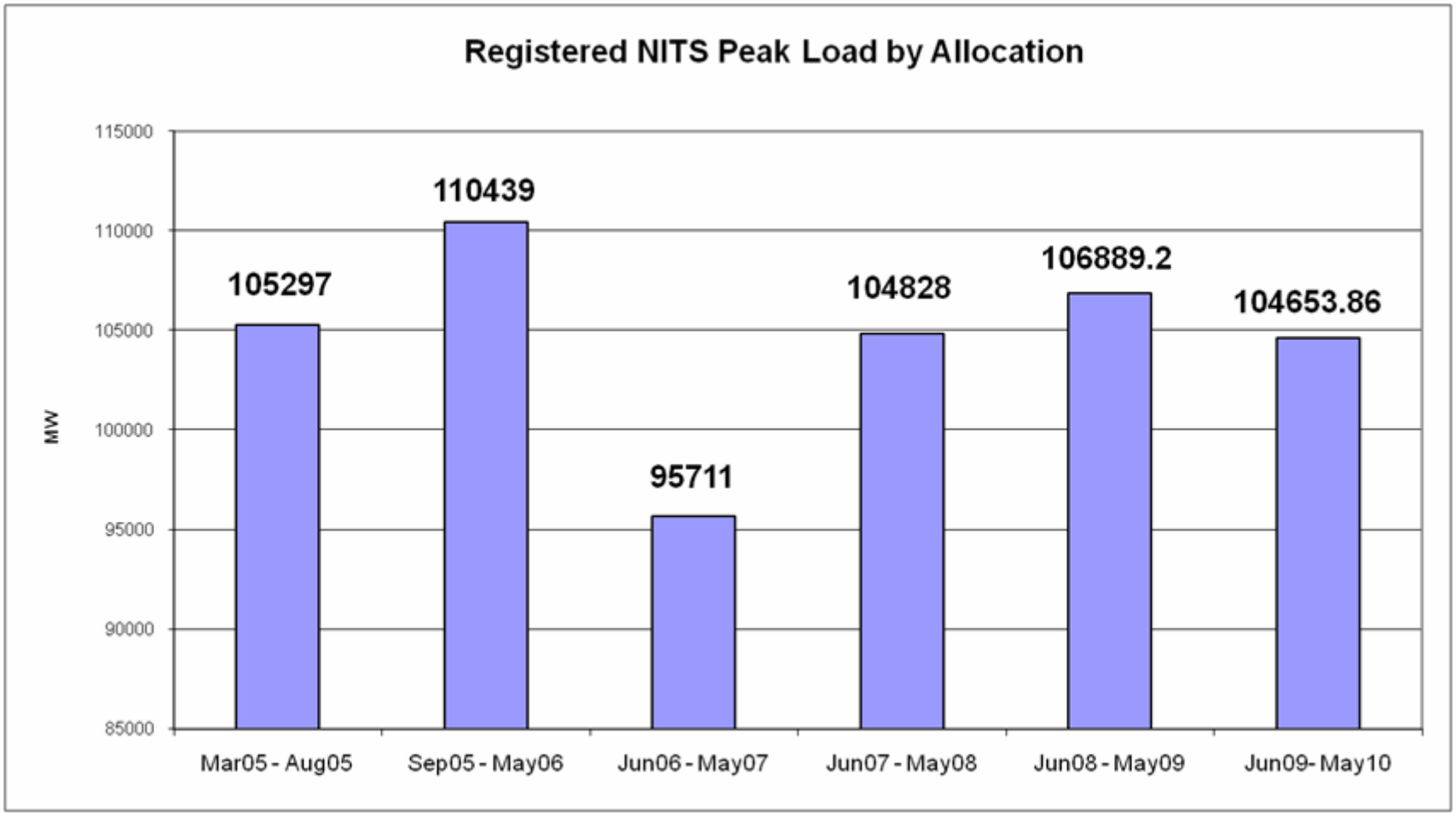
Registered NITS Peak by Allocation Period



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Grandfathered Agreements (GFAs)

- Both Carve-Out and Option B GFA entitlements are fully nominated in Stage1A only
- Overall feasibility of GFA CO and OB was 86%, which is a 1% increase over 2008 allocation
- Compared to 2008, the 2009 registered Option B GFA entitlements increased while Carve-Out GFAs decreased

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Expanded Congestion Cost Hedge (ECCH)

- Market Participants with load located in a Narrowly Constrained Area (NCA) served by resources external to the NCA may convert ARR Entitlements to ECCH Entitlements
  - Available to restore full MW value of eligible CFTRs curtailed in the allocation process
- 5-yr transitional period ends in 2010

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Expanded Congestion Cost Hedge (ECCH)

- ECCH conversion requests in current allocation lower than levels in past allocations
- One Market Participant, one Path
- Up to 14 MWs total ECCH scheduling entitlements in each season and case
- 112.3 MWs of ECCH treatment granted overall in 2009 (vs. 308.2 for 2008)

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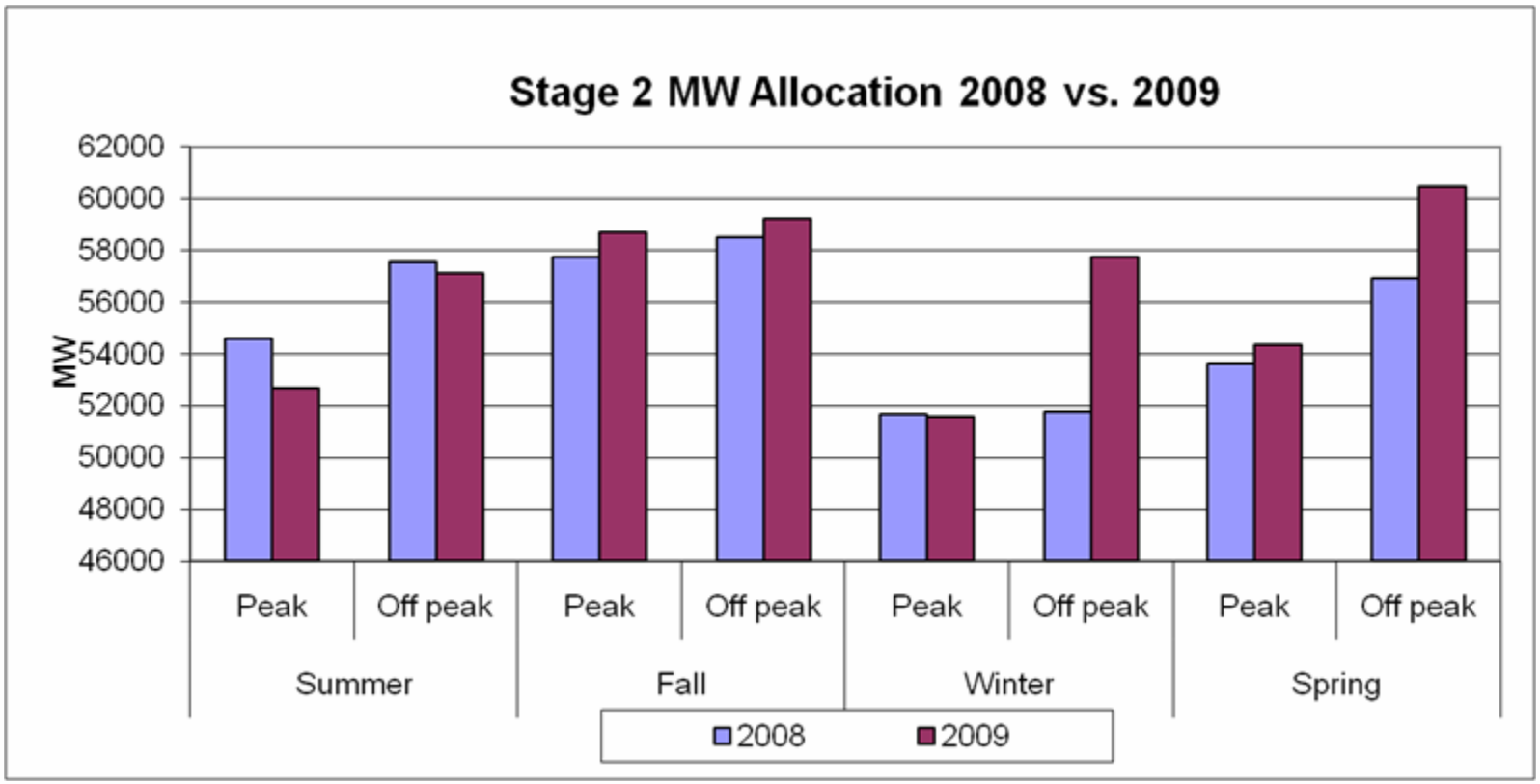
Stage 2 Allocation

- Stage 2 MWs are based on the difference between Stage 1 allocation amounts and Stage 1 nomination cap expressed as a percentage of Stage 2 Allocation across all Market Participants



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Stage 2 Allocation

- Stage 2 dollar amounts are based on manual calculation. The Settlements system might calculate the residual slightly differently due to numerical adjustment

Season	TOU	2009 Stage 2 MWs	Stage 2 Residual Dollars	
Summer	**Peak**	52675.5	$	17,742,940.00
	Off Peak	57143.4	$	14,506,816.00
Fall	**Peak**	58686.2	$	9,803,977.10
	Off Peak	59246.4	$	10,175,637.80
Winter	**Peak**	51611.1	$	4,333,651.40
	Off Peak	57736.8	$	5,505,701.50
Spring	**Peak**	54342	$	12,175,492.80
	Off Peak	60489.8	$	15,665,971.50
Total		**451931.2**	**$**	**89,910,188.10**

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Infeasible ARRs

- Total sum of LTTRs was 391072.9 MWs
- Total Infeasible ARRs were 14902.1 MWs
- Of the total LTTRs, 3.8% were infeasible
- The uplift was covered by approximately 96% of Market Participants that were eligible for LTTRs
- Of the LTTR eligible MWs held by all Market Participants approximately 92% became LTTRs

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Infeasible ARRs: Uplift Ratio

- Uplift associated with Infeasible ARRs across all seasons for 2009 ARR Allocation:
- Total Stage1A granted LTTRs: 390.9 GW
- Total LTTR Payment: $165.9 M
- Total Infeasible Uplift: $13.7 M
- The ratio of total infeasible LTTR uplift costs over the total LTTR payments from Stage 1A: 8.30%

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The Fundamentals

Guiding Principles of the Midwest ISO FTR Markets

- Provides efficiently priced congestion hedges to Market Participants that serve load within the Midwest ISO region or otherwise transact through the Midwest ISO market
- Preserves incentives to participate in the security constrained economic dispatch
- Allows the region's transmission system to be efficiently priced and its value to be conveyed to the Midwest ISO transmission customers
- Provides incentives for efficient investments in new transmission capability

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The Fundamentals

FTR Auction – The Midwest ISO's Intended Purpose

- FTR Auctions are established as a mechanism to:
  - Provide FTR holders an opportunity to liquidate congestion hedge positions
  - Provide LSEs (ARR holders), suppliers, marketers and traders, as well as any other market participant a means to purchases congestion hedges to manage market risks
  - Provide a source of revenues that help to fund the full congestion costs to FTR holders

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The Fundamentals
FTR Auction - Objective

- The efficiency and value of the transmission system are conveyed to all Market Participants in FTR Auctions through “Social Welfare” maximization

$$\sum_{\textit{Buy}\ \text{Bids}} (\text{Bid Price} * \text{MW}) - \sum_{\textit{Sell}\ \text{Offers}} (\text{Offer Price} * \text{MW})$$

  - Cleared (buy) bid prices are higher or equal to the clearing price
  - Cleared (sell) offer prices are lower or equal to the clearing price
- Subject to simultaneous feasibility with “n-1” security
  - MW limits on all monitored elements

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The Fundamentals
FTR Auction Summary

- ARRs/FTRs are financial instruments, not physical rights
  - FTRs: Entitle Market Participants to stream of DA congestion revenues for hedging or non-hedging purposes
  - ARRs: Entitle the firm historical transmission users to a share of the revenue in annual FTR auction or charges
- FTR Auctions are established as a social welfare maximization mechanism to provide efficiently priced congestion hedges to market participants

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The Midwest ISO FTR Auction

Statistics and Observations

- Participation
- Bids/Offers (counts, awarded MWs)
- Prices ($/MWh) for bids and offers
- ARR value and funding
- Liquidity indices
- Social welfare
- The Midwest ISO FTR Auction evolution

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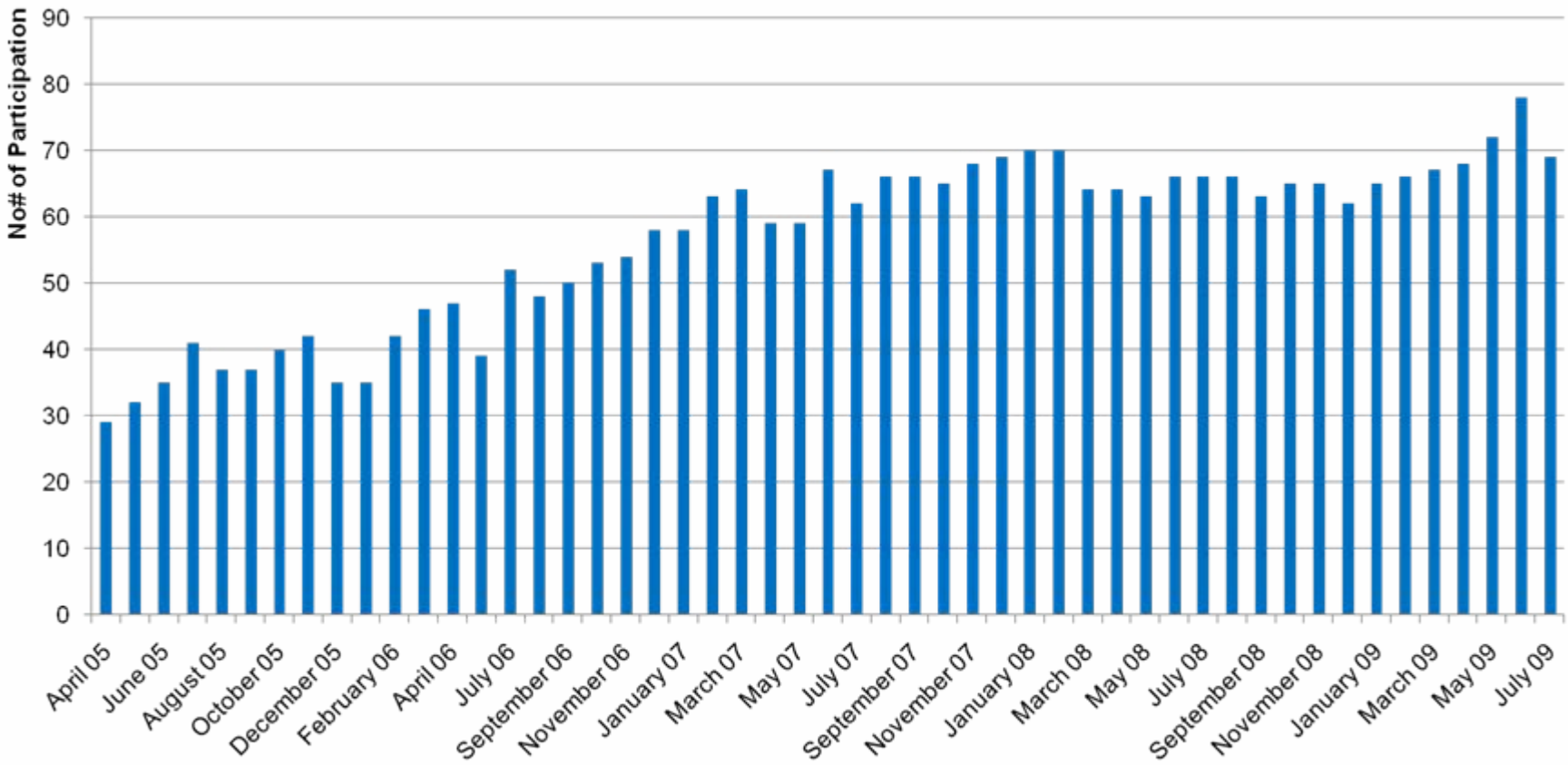
Participation in Monthly Apr 05 - July 09



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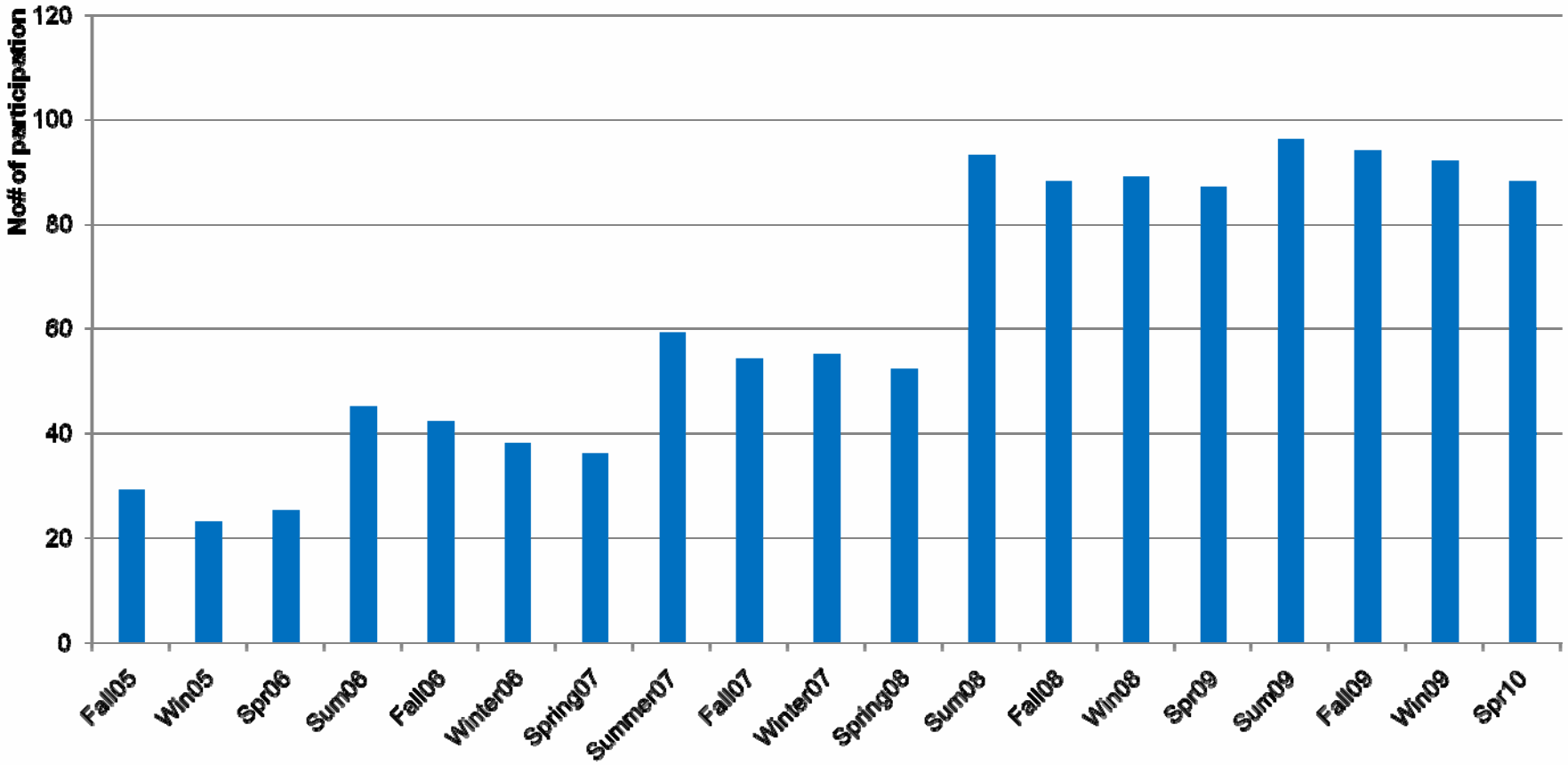
Participation in Annual Fall 05 - Spring 10



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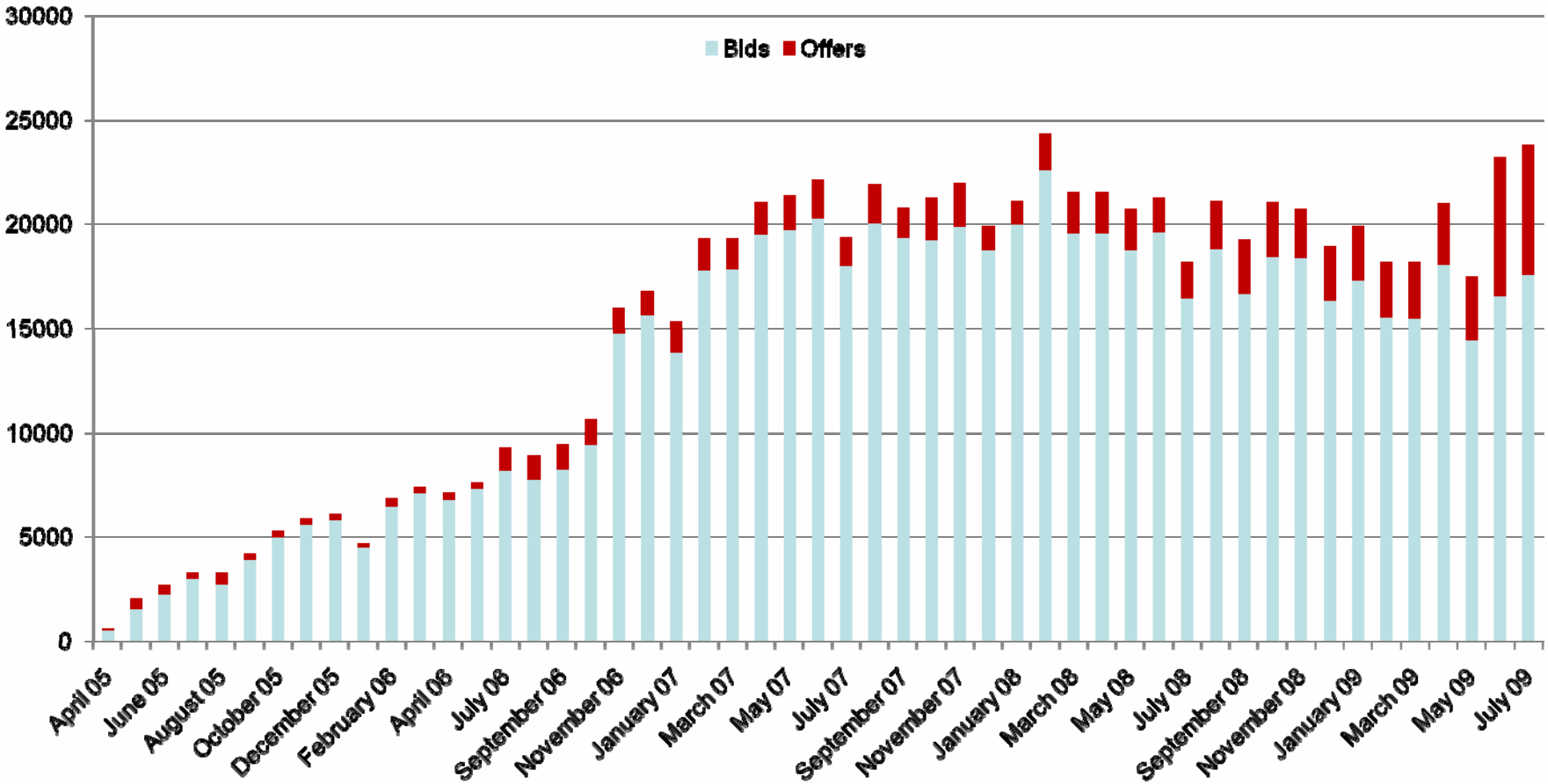
Bid/Offer Counts
Monthly (Apr 05 - July 09)



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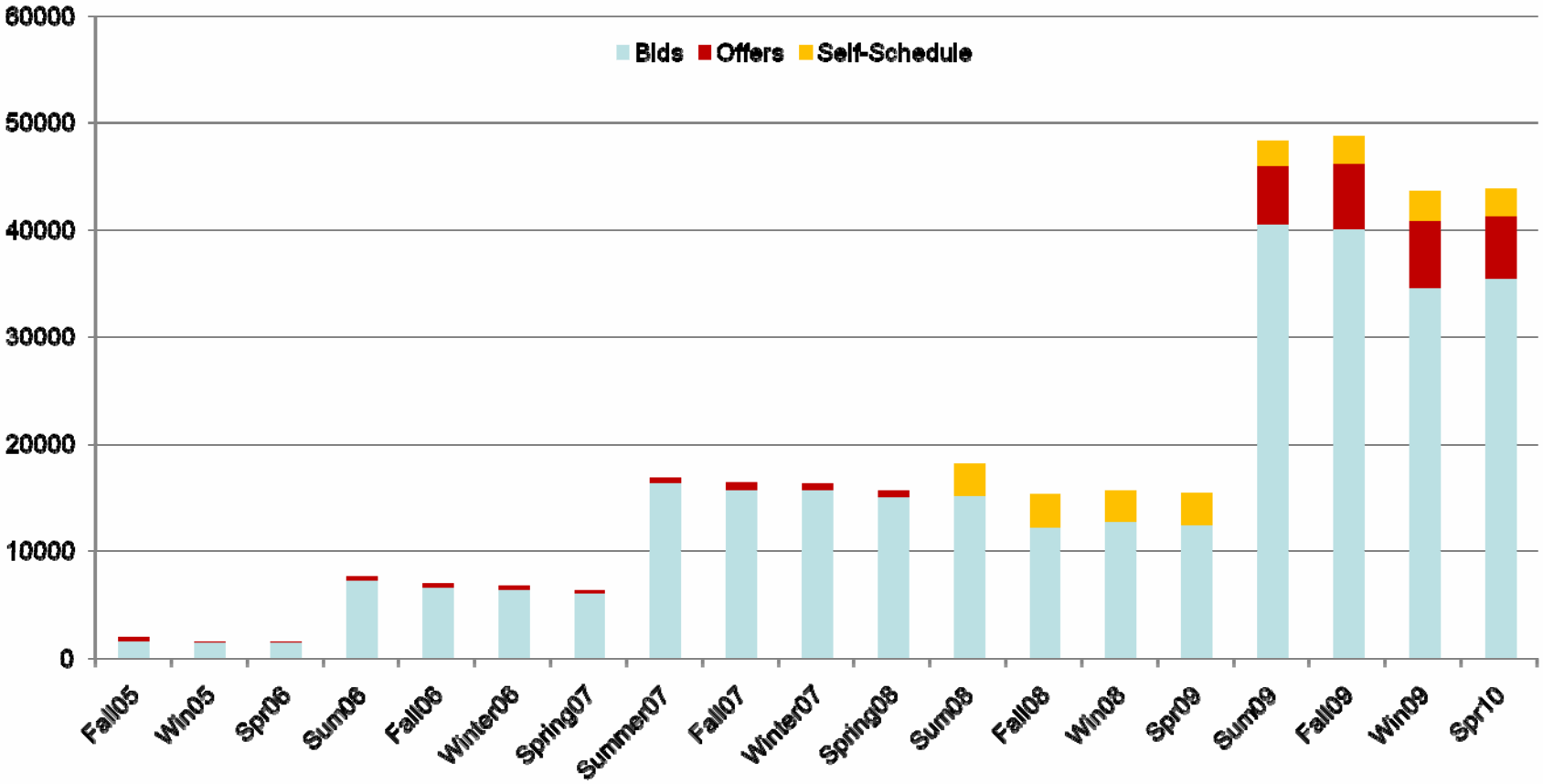
Bid/Offer/Self-Schedule Counts Annual (Fall 05 - Spring 10)



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Observations

Participation and Trading Counts

- Participation and trading counts in both annual and monthly auctions has demonstrated a steady growth and sustenance since market started in 2005

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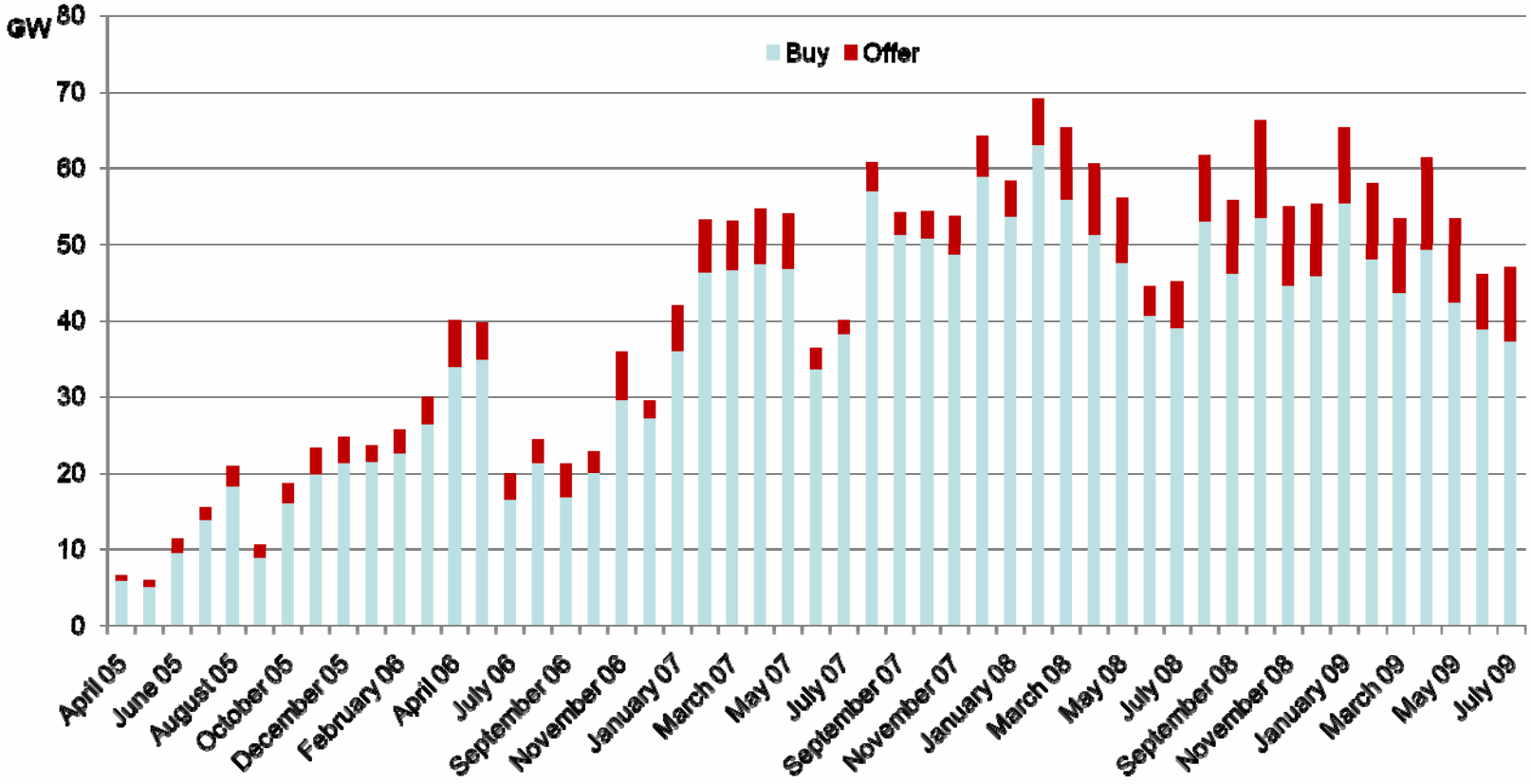
Bid/Offer Award
Monthly Auction (Apr 05 - July 09)



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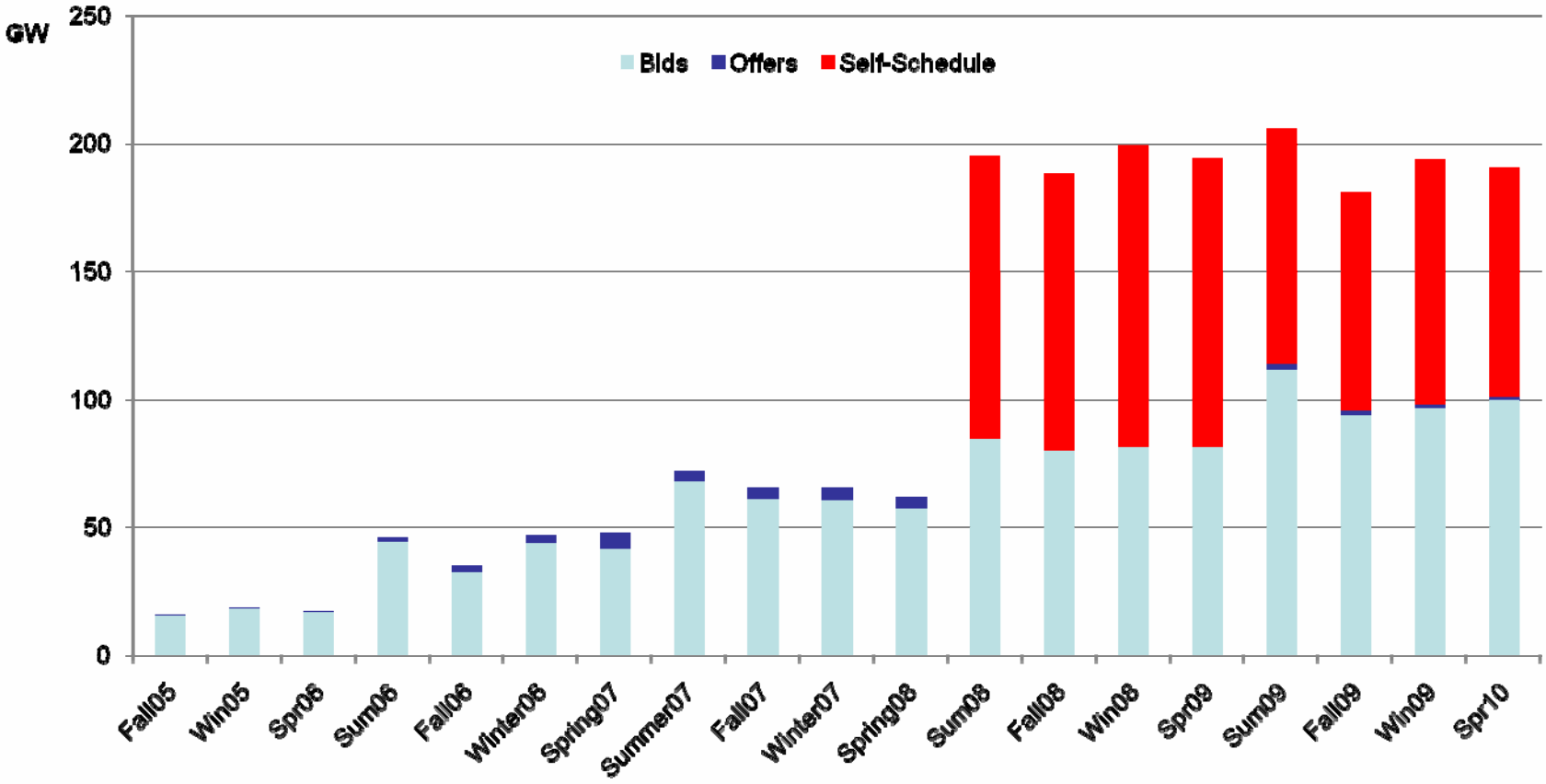
Bid/Offer/Self-schedule Award Annual Auction (Fall 05 - Spring 10)



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Observations
Awarded Trades

- Awarded trades in the monthly FTR auctions experienced steady growth since market start in April 2005
- Possible drivers resulting in low volume of awarded trades in some periods:
  - In general, less awarded trades in summer season monthly auctions observed, but not the submitted trades, indicating less transmission capacity since they are close to annual auctions
  - Months in Sum 06-Win06: Introduction of tier 5 FTR allocation in 2006-2007 allocation period for short term network resources

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Observations

Awarded Trades (cont'd)

- The volume of annual trades awarded (bids/offers) increased steadily at the rate of 80 GW per annual from 2005-2006 to 2009-2010 allocation period
- Diminishing of Self-Schedule: The volume of self-schedule in annual decreased roughly by 20% from 2008-2009 allocation period to 2009-2010 allocation period, whereas, the volume of buy bids increased by 22%

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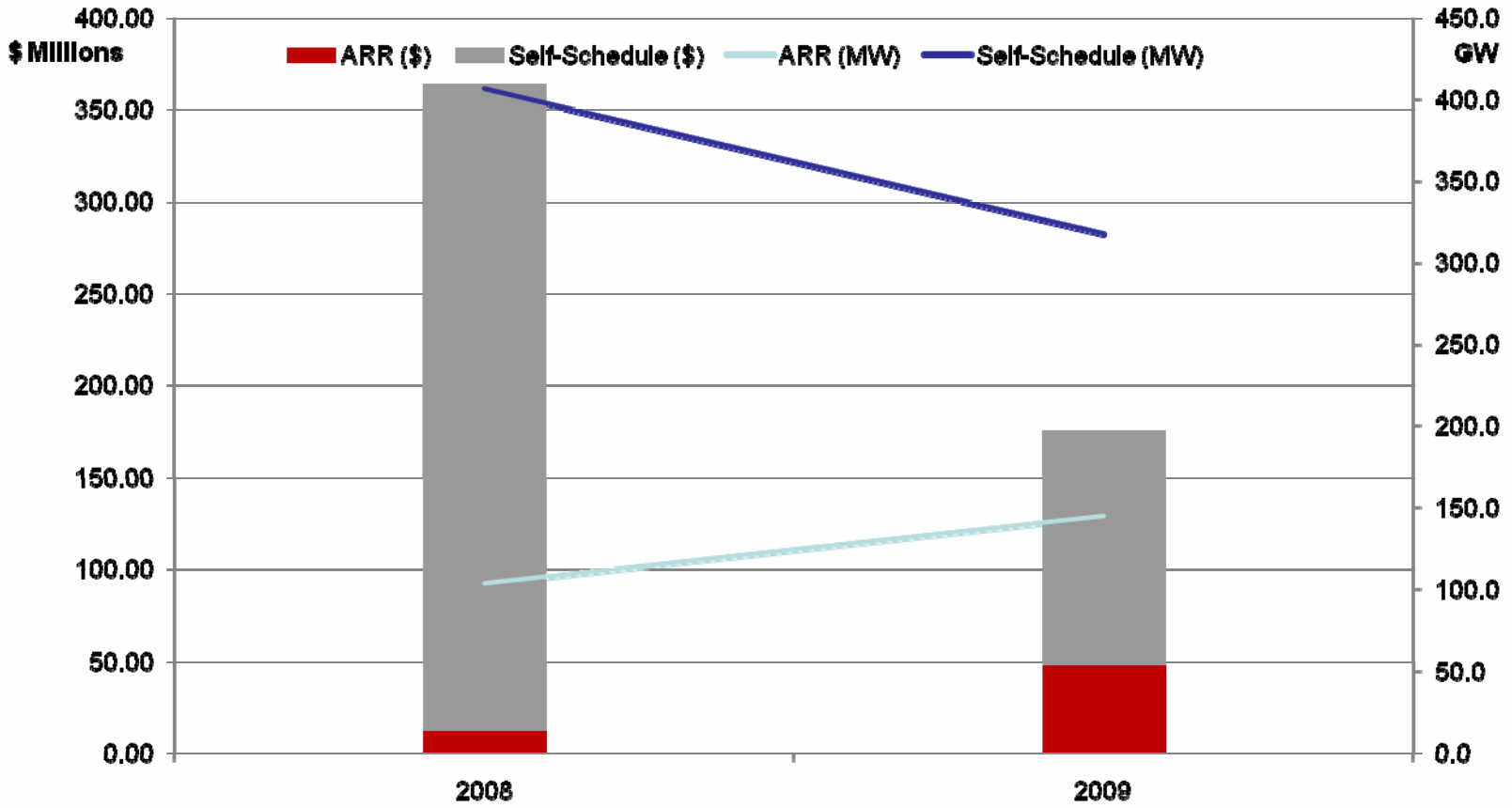
Self-schedule and net ARRs Annual Auction (Y2008 - Y2009)



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Observations

ARR Value, Funding and Prices

- ARRs were 100% revenue adequate during the 2008-2009 and the 2009-2010 allocation periods
- ARR holders received credits valued at $175 million (with self-schedule ARRs) during the 2009-2010 allocation period, with an average ARRs credit of $0.37/MWh, compared to $363 million in total and $0.71/MWh in the 2008-2009 allocation period
- ARR holders received net credits valued at $47 million during the 2009-2010 allocation period, with an average ARRs credit of $0.33/MWh, compared to $12 million in total and $0.11/MWh in the 2008-2009 allocation period

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Indices

Notations

- Max/Sum: The ratio of maximum index among all market participants over the sum of indices from all market participants
- ROI: Return on Investment - the ratio of profit relative to the FTR premium

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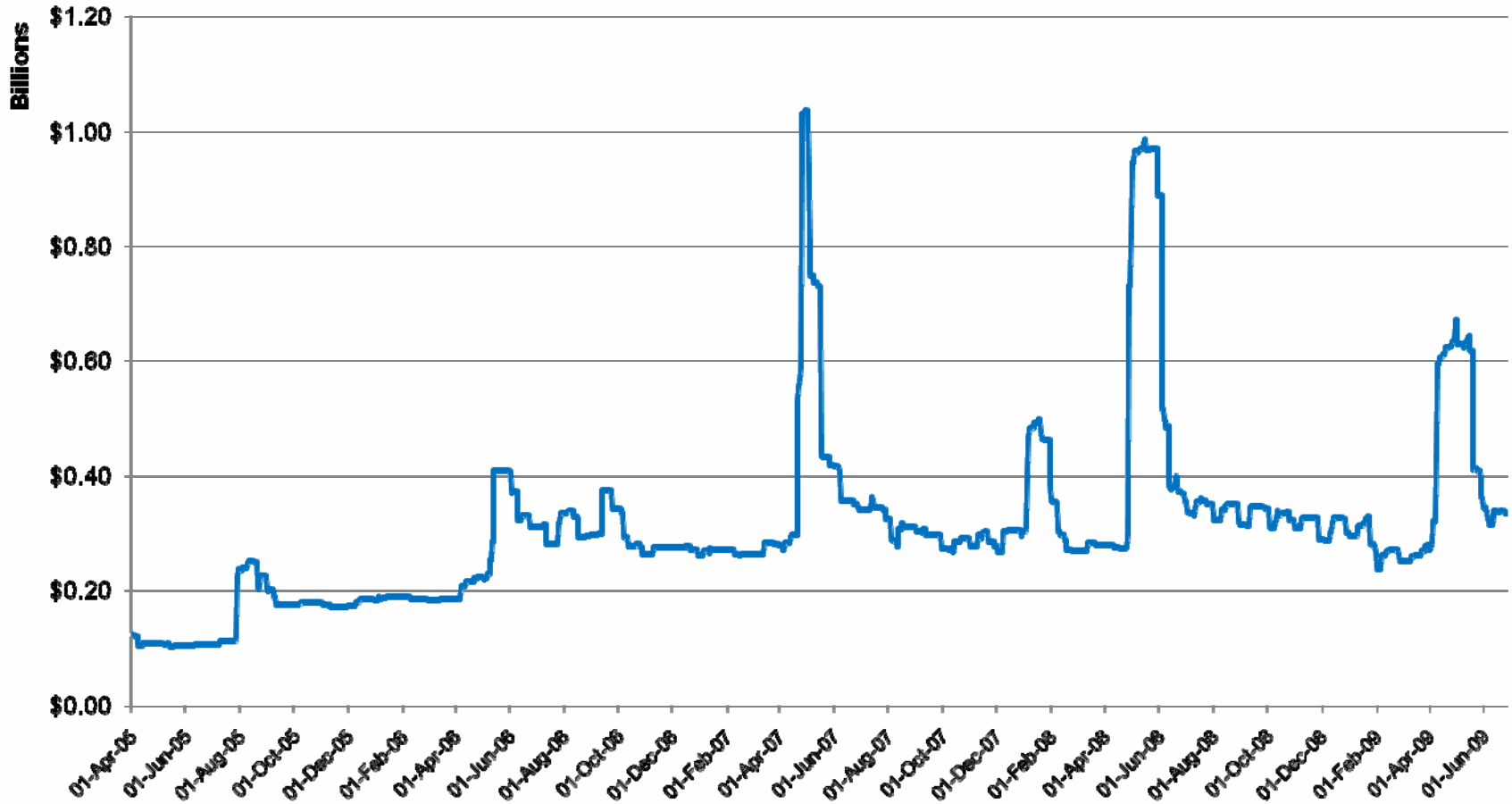
Indices

Total Collateral



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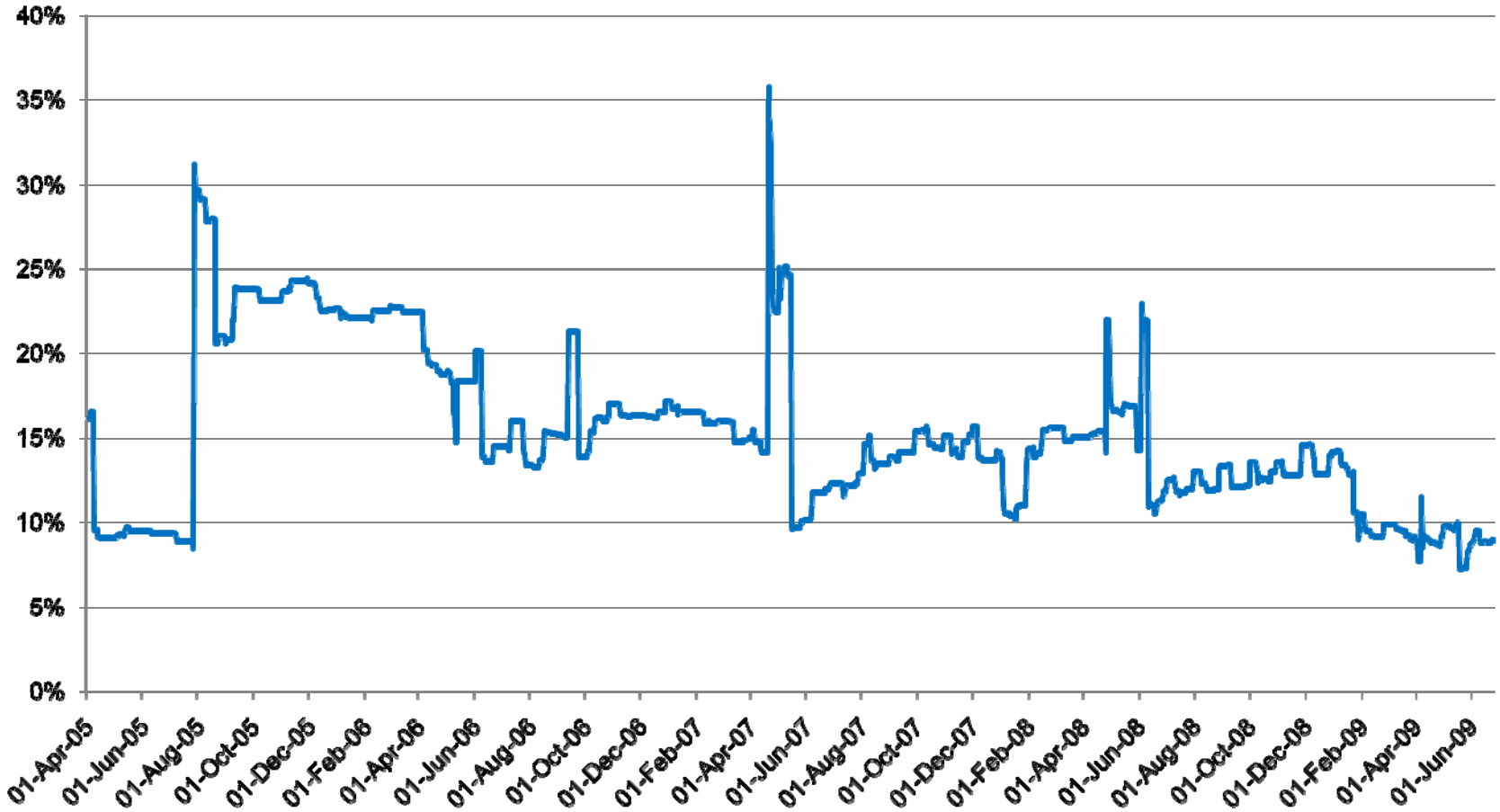
Indices

Collateral (Max/Sum)



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Observations
Collateral Index

- Total Collateral has demonstrated a steady growth and sustenance since market started in 2005*
- A trend of decrease in collateral index has been observed

* Three-round annual auction was implemented at first time in 2009-10 FTR Annual Auction.

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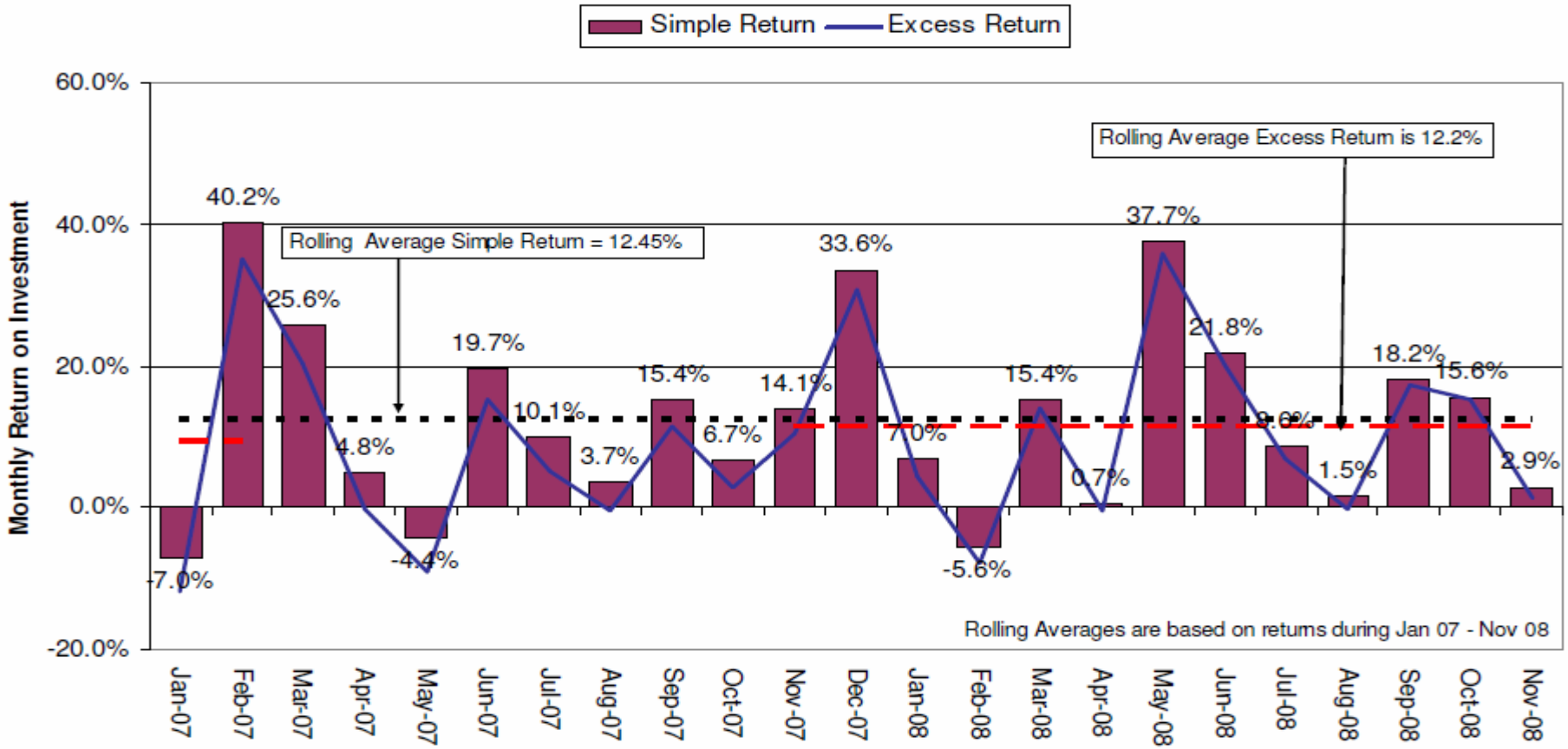
Indices

ROI



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Observation
ROI

- The graph in the previous slide demonstrates the changes of Simple Return and Excess Return over time
- The averages of Simple Return and Excess Return during the year 2007 were 13.54% and 13.17%, during the first eleven months of 2008 were 11.26% and 11.14%, and during the entire study period of January 2007 to November 2008 were 12.45% and 12.2%
- These numbers suggest to some extent the stability and maturity of the FTR monthly auction market

Note: Refer to the detailed the Midwest ISO document on FTR profitability located at http://www.midwestmarket.org/publish/Document/6ef35b_121e89707ed_-7c940a48324a

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Summary

- The FTR auctions in the Midwest ISO is serving the intended purpose by:
  - Attracting market participation
  - Promoting maximum value of public good
  - Encouraging competition and demonstrating market liquidity
  - Demonstrating stakeholder confidence in terms of investing and expanding FTR products
  - Allowing market valuation of FTRs that is consistent with the most efficient user of such financial instruments

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Challenges

- The Midwest ISO is continuously challenged with the funding levels (congestion rent payments) of the FTR market
- The FTR funding volatility in the Midwest ISO is due to the unpredictable and non-chronic nature of the congestion
  - This means that the primary drivers of congestion tend to be transmission outages and loop flow increases due to regional weather patterns

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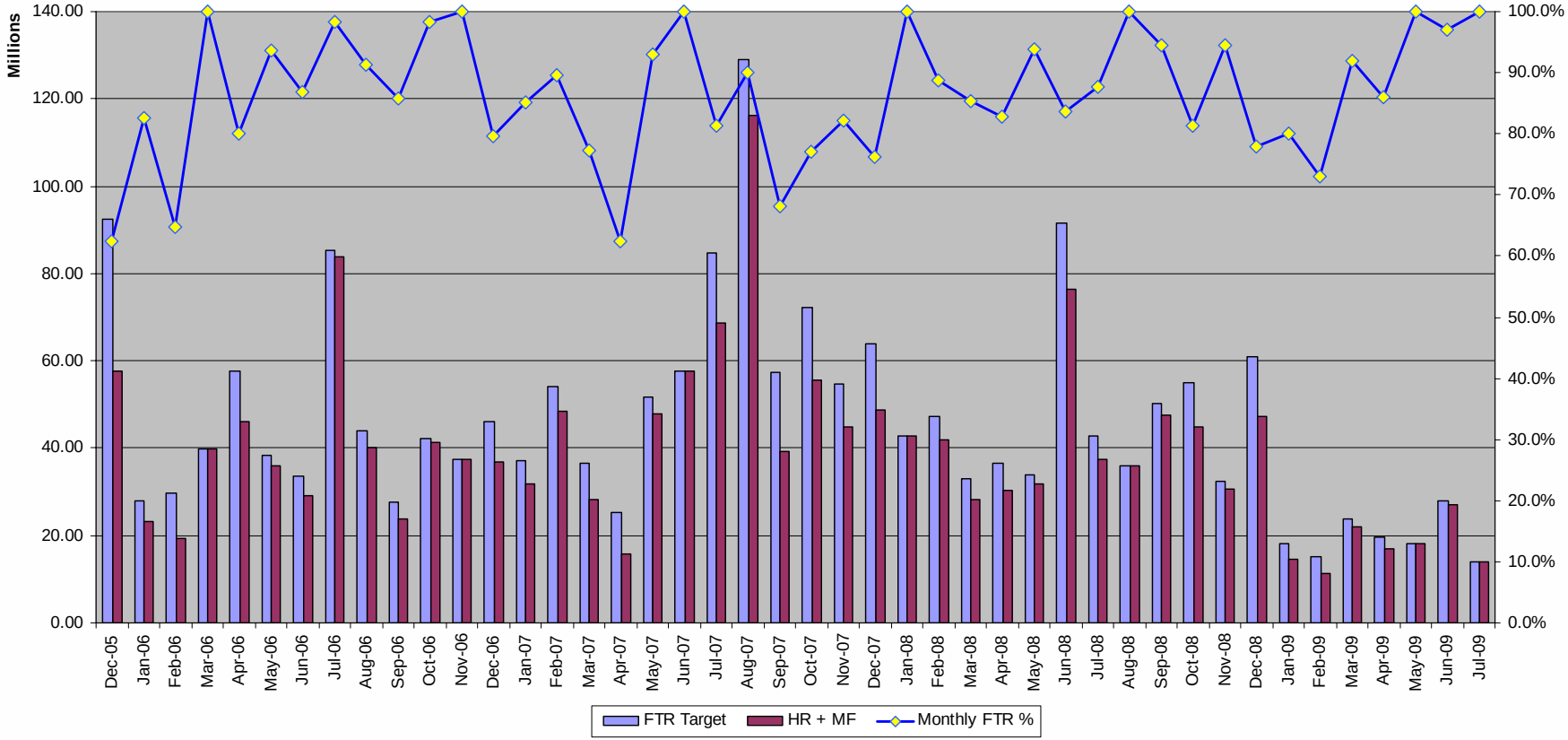
FTR Funding



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