

Incorporation of Losses in Retail Prices Set by Auction

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Relationship Between Wholesale and Retail Markets

- Two Offerings: SSO and CRES
 - **Standard Service Offer (SSO) is the default option**
 - Competitive Retail Electric Supplier (CRES)
competitive alternative to standard service
- Both retail constructs are derived from the wholesale market

Relationship Between Wholesale and Retail Markets

- **Standard Service Offer (SSO) Auctions**
 - Suppliers compete for right to serve default load
 - Master Supply Agreement governs bidder requirements and product definition
 - Independent auction administrator
 - Bidders may own generation or obtain energy and capacity through wholesale market
- SSO Load is divided into identical units called “tranches”
 - Each tranche represents one percent (1%) of the actual hourly energy required for SSO load for the applicable delivery period as well as one percent (1%) of the PJM capacity requirement
 - No bidder may win more tranches than the load cap
The PUCO has ordered a load cap of 80%

Relationship Between Wholesale and Retail Markets

- **Standard Service Offer (SSO) Auctions**
 - Full Requirements Service
Suppliers bid to provide energy, capacity,
transmission service, transmission ancillaries
 - Retail rates will be developed directly from the final prices
Reconciliation mechanism:
Ensures the distribution utility neither makes
nor loses money related to the provision of
SSO Generation Service

SSO Auction: Frequently Asked Questions

Question: What does market based transmission mean? Please provide a list of all market-based transmission costs. Which specific sections or costs are included?

Answer: In this context, market based transmission generally means transmission and ancillary charges whose rates/costs are set in total or in part by the PJM energy market. **Congestion and incremental losses would be two examples.**

- <http://www.firstenergycbp.com/FAQ.aspx>

SSO Auction: Frequently Asked Questions

- Question:

- Can you please provide historical transmission losses?

- Answer:

- Historical marginal transmission losses cannot be provided. These are a function of the supplier's source [in relation to the retail service territory destination].

Forward Electric Energy Markets

Intercontinental Exchange (ICE)

- Electronic Trading Platform
 - Eliminates individual brokers
 - Transparent liquidity
 - Transparent pricing
- Facilitates Trading among Members
 - Contract obligations pre-defined
 - Credit established
 - Position netting


Forward Electric Energy Markets

Intercontinental Exchange (ICE)

- Standardized Products – Simple Swap
 - 50 MW Blocks of Power
 - Location Specific (trading hubs)
 - On Peak / Off Peak
- Forward Strips – Contracts for delivery of power at a specified future period
 - Monthly
 - Multi-month
 - Annual


InterContinental Exchange: Sample on-line Price Report

https://www.theice.com/otc_electricity.jhtml

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ICE DAY AHEAD POWER PRICE REPORT

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HUB	TRADE DATE	BEGIN DATE	END DATE	HIGH	LOW	AVG	CHG	VOL (MWH)	# DEALS	# CPARTIES
AD Hub Real Time Peak	May 2, 2012	May 3, 2012	May 3, 2012	43.60	41.50	42.72	2.69	16,800	21	12
COB Off-Peak	May 2, 2012	May 3, 2012	May 3, 2012	4.20	3.00	3.60	1.86	8,400	37	14
COB Peak	May 2, 2012	May 3, 2012	May 3, 2012	18.25	17.00	17.16	4.91	8,800	21	12
ERCOT Houston 345KV Peak	May 2, 2012	May 3, 2012	May 3, 2012	34.00	32.25	32.95	2.16	4,000	5	5
ERCOT North 345KV Off-Peak	May 2, 2012	May 3, 2012	May 3, 2012	16.00	16.00	16.00	1.00	1,600	4	4
ERCOT North 345KV Peak	May 2, 2012	May 3, 2012	May 3, 2012	34.00	31.75	32.71	3.86	30,400	37	17
ERCOT South 345KV Peak	May 2, 2012	May 3, 2012	May 3, 2012	32.00	31.75	31.92	4.17	4,800	6	7

Transmission Losses

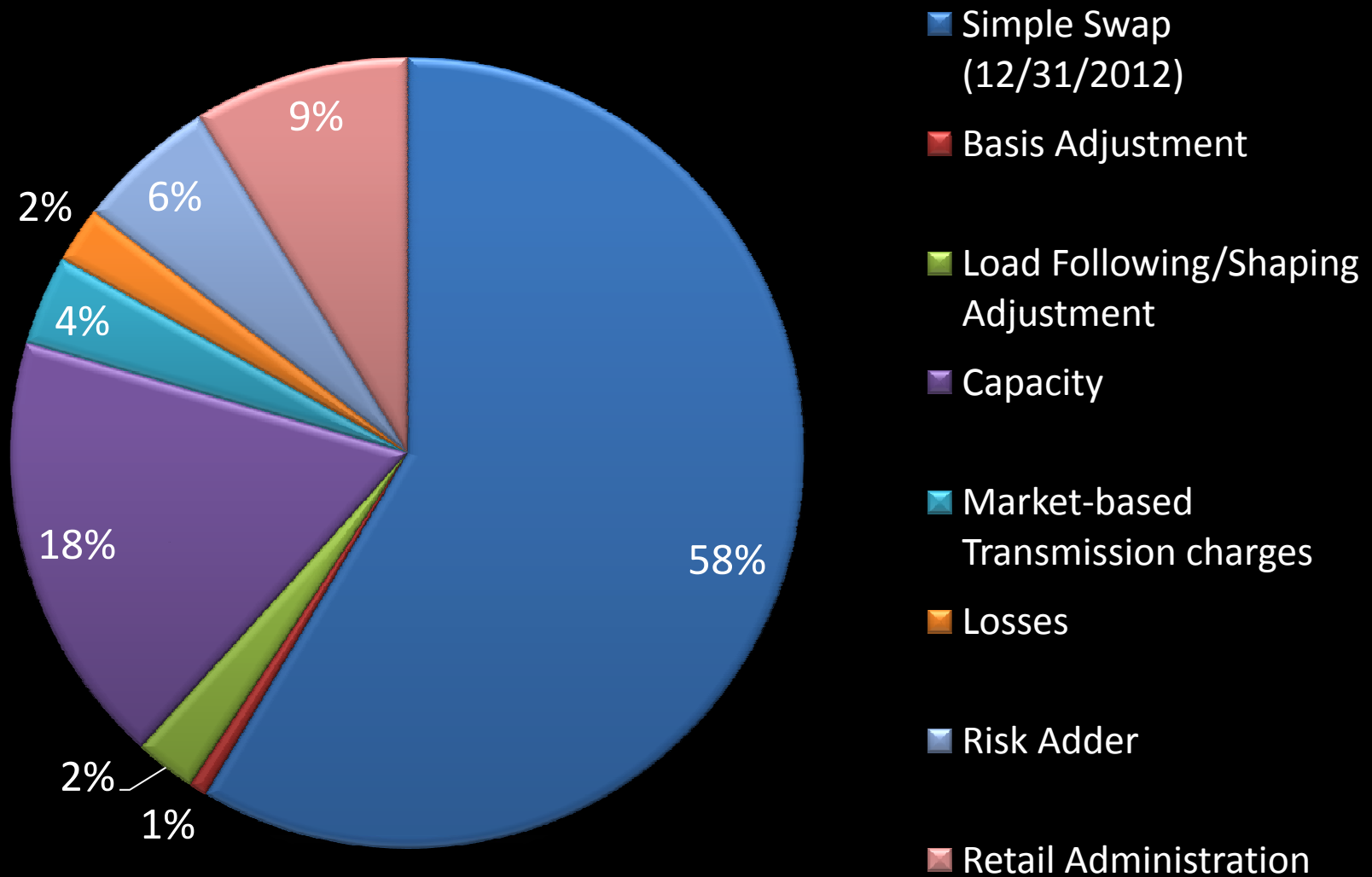
- Intercontinental Exchange Forward Price (“Simple Swap”) is based upon LMP
- Location specific
- Contract for Future Delivery

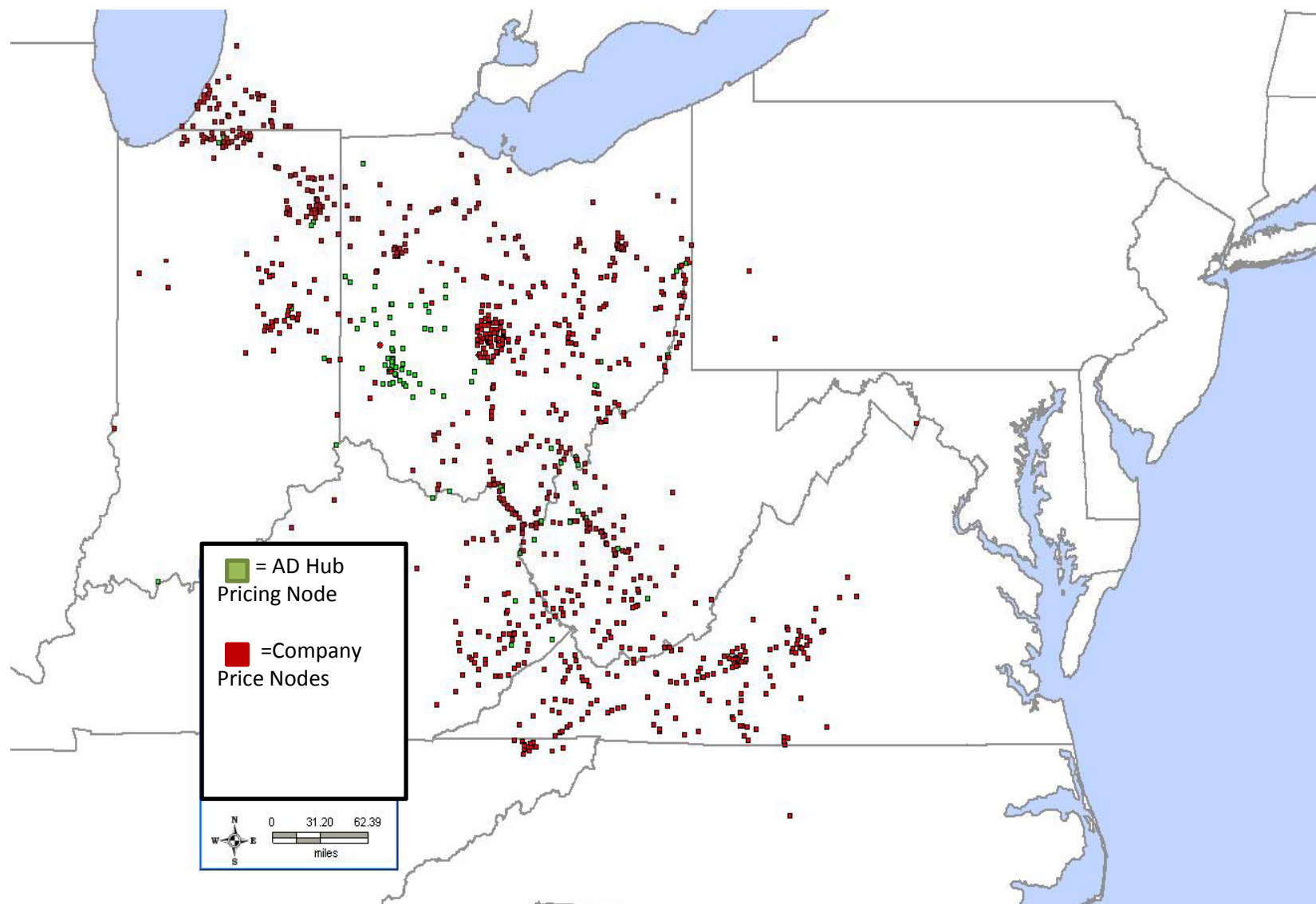
- Embedded in Locational Marginal Price (LMP)
- $$\text{LMP} = \text{System Energy Price} + \text{Transmission Congestion} + \text{Cost of Marginal Losses}$$
- Established by PJM
- Included in Wholesale Energy Prices

Competitive Bid Price calculation components:

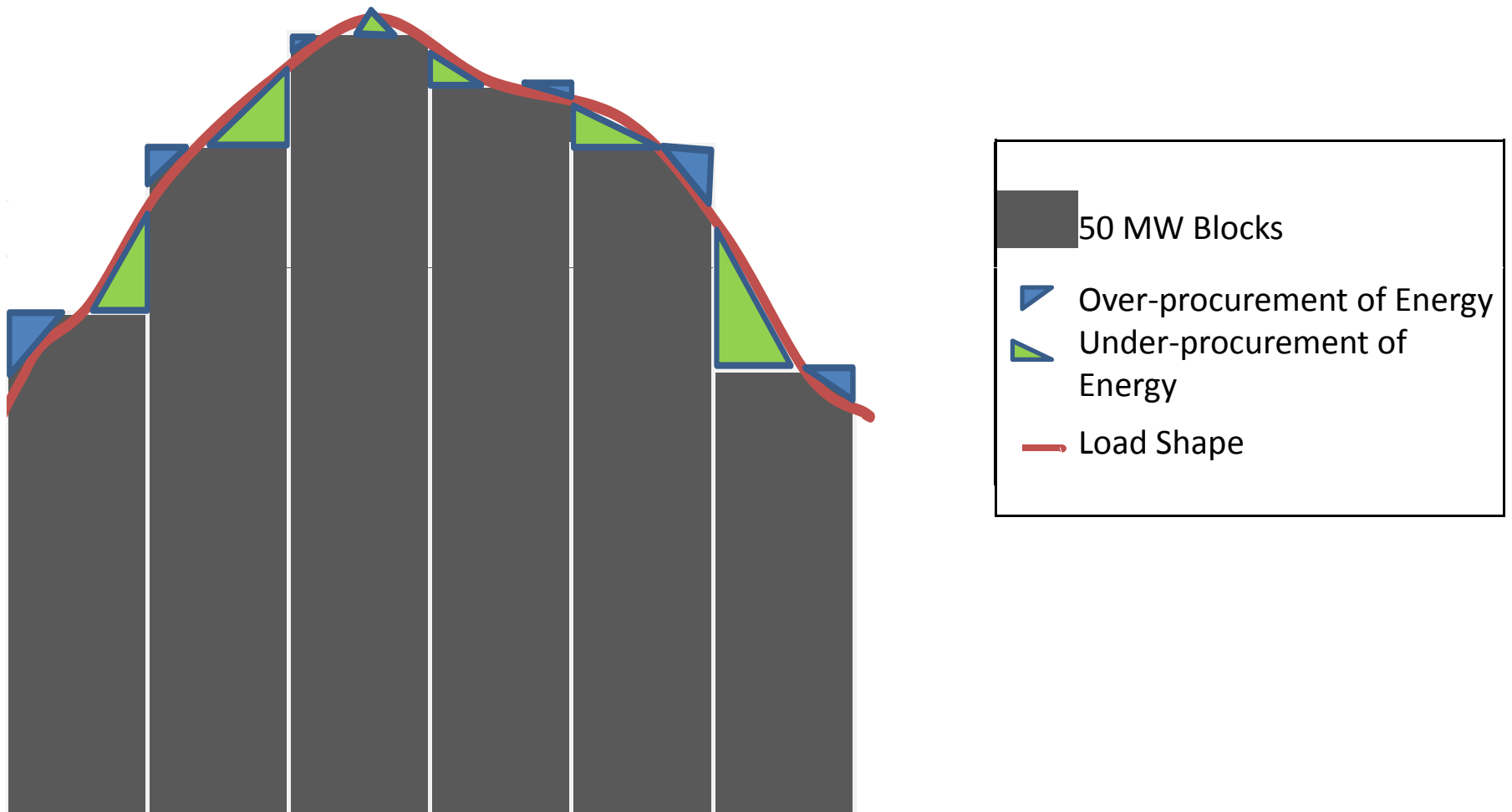
Simple Swap	This represents futures market LMP prices in this case at the AEP/Dayton Hub
Basis Adjustment	This represents the price difference geographically between a trading hub and a settlement zone
Load Following/Shaping Adjustment	This represents the risk exposure of market participants to load and price volatility
Capacity	This represents the amount a participant can expect to pay for capacity
Market-based transmission charges	This represents the fee that LSE must pay for PJM ancillary services and represents allocations (credits) LSE receives through the congestion portion of the PJM market.
Losses	This represents the <u>distribution</u> loss impacts on the bidding process
Transaction Risk Adder	This represents risk exposure to participants in the auction/market process
Retail Administration	This represents the amount the market manager will charge for facilitating the auction and with any billing fees FE may charge

Retail Energy Components





Load Following and Shaping



Auction-based Retail Price

	Period	1/2014-5/2015
1	Simple Swap (12/31/2012)	\$ 33.27
2	Basis Adjustment	\$ 0.42
3	Load Following/Shaping Adjustment	\$ 1.42
4	Capacity	\$ 10.12
5	Market-based Transmission charges	\$ 2.10
6	Losses	\$ 1.31
7	Risk Adder	\$ 3.26
8	Retail Administration	\$ 5.00
	Staff MRO Price	\$ 56.89