



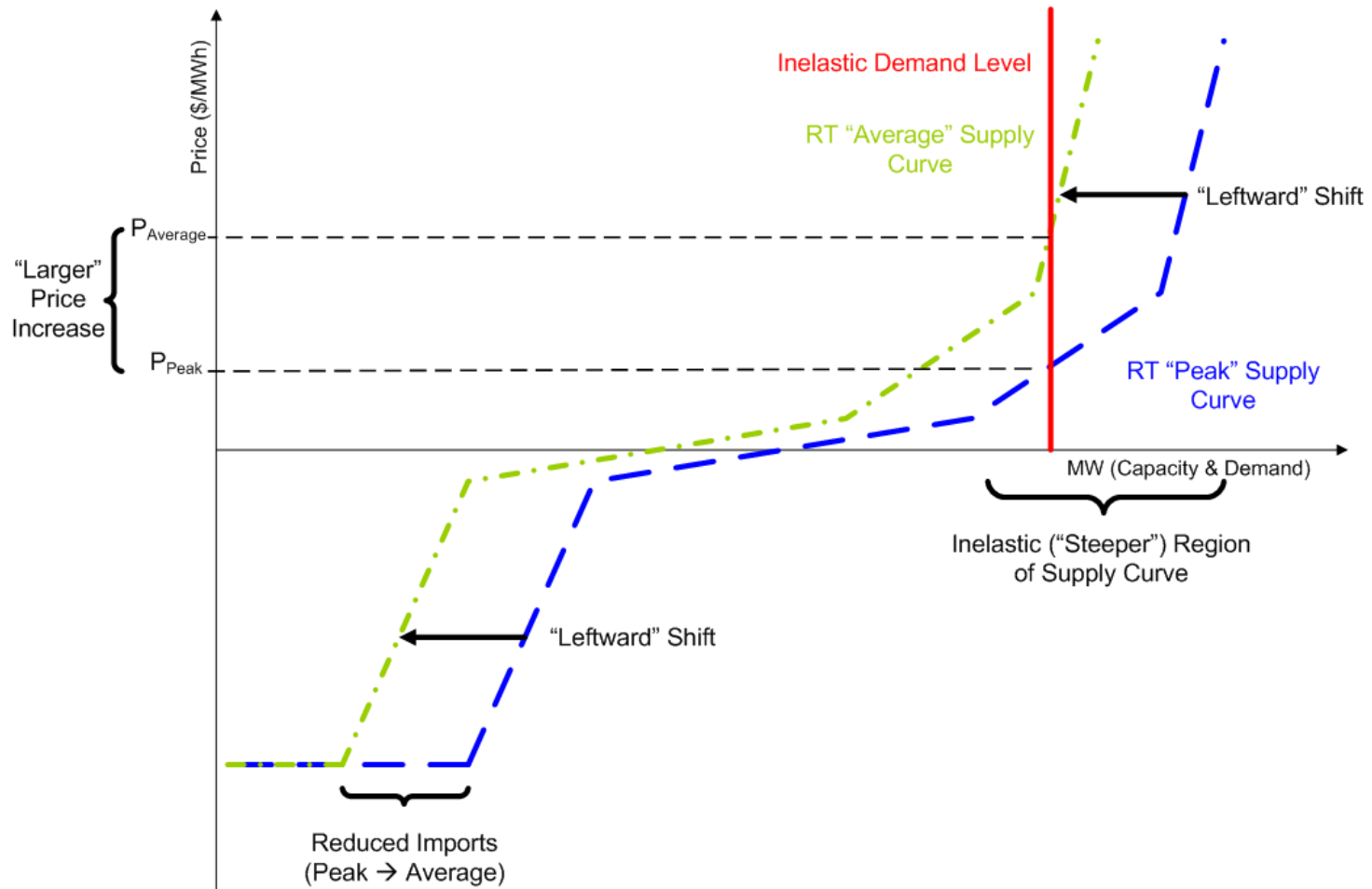
Power to Ontario.
On Demand.

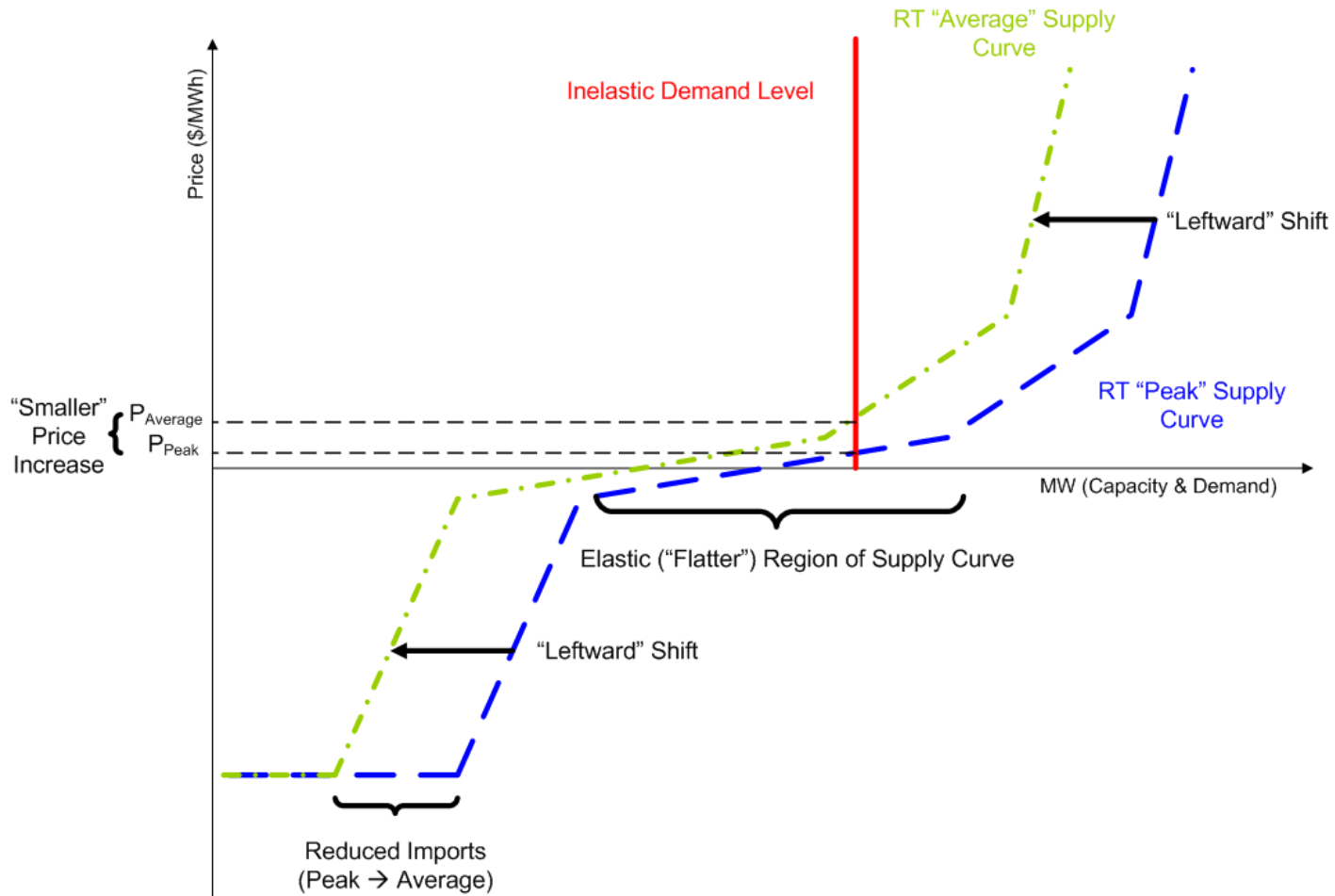
MPWG Issue 9: Peak vs. Average 'Off-Coal' Impacts

MPWG 52 – October 29, 2008



- MPWG Action Item 50-1
 - Impact of government ‘off-coal’ program on expected price increase resulting from the use of average demand forecast instead of peak demand forecast
- August 19 MPWG meeting:
 - ‘Off-coal’ impact on elasticity (slope) of system supply curve can provide insight





- August 19 MPWG meeting cont'd:
 - Three general scenarios (supply curve):
 1. Slope remains relatively unchanged → 'price increase' analysis holds
 2. Slope becomes steeper (less elastic) → 'price increase' analysis potentially under forecasts
 3. Slope becomes flatter (more elastic) → 'price increase' analysis potentially over forecasts

- Average supply curves representing the supply mix for the years 2009, 2011, 2013 and 2015 were constructed using:
 - Actual offer data from 2007/2008
 - OPA IPSP supply mix data
 - Set of assumptions (no conservation, no embedded generation, etc.)
- Supply curves NOT a forecast of future supply/demand conditions → no inference should be made with respect to future prices
- Supply curves used to provide insight into potential change in elasticity associated with changing supply mix

- Supply curves averaged over:
 - Four seasons:
 - Winter (Dec-Feb)
 - Spring (Mar-May)
 - Summer (Jun-Aug)
 - Fall (Sep-Nov)
 - On and off-peak hours (excluding assumed ramp-up hours 6-9 and 16-19)
- Resulting in 8 sets of supply curves:
 - Winter On-Peak, Winter Off-Peak, etc...

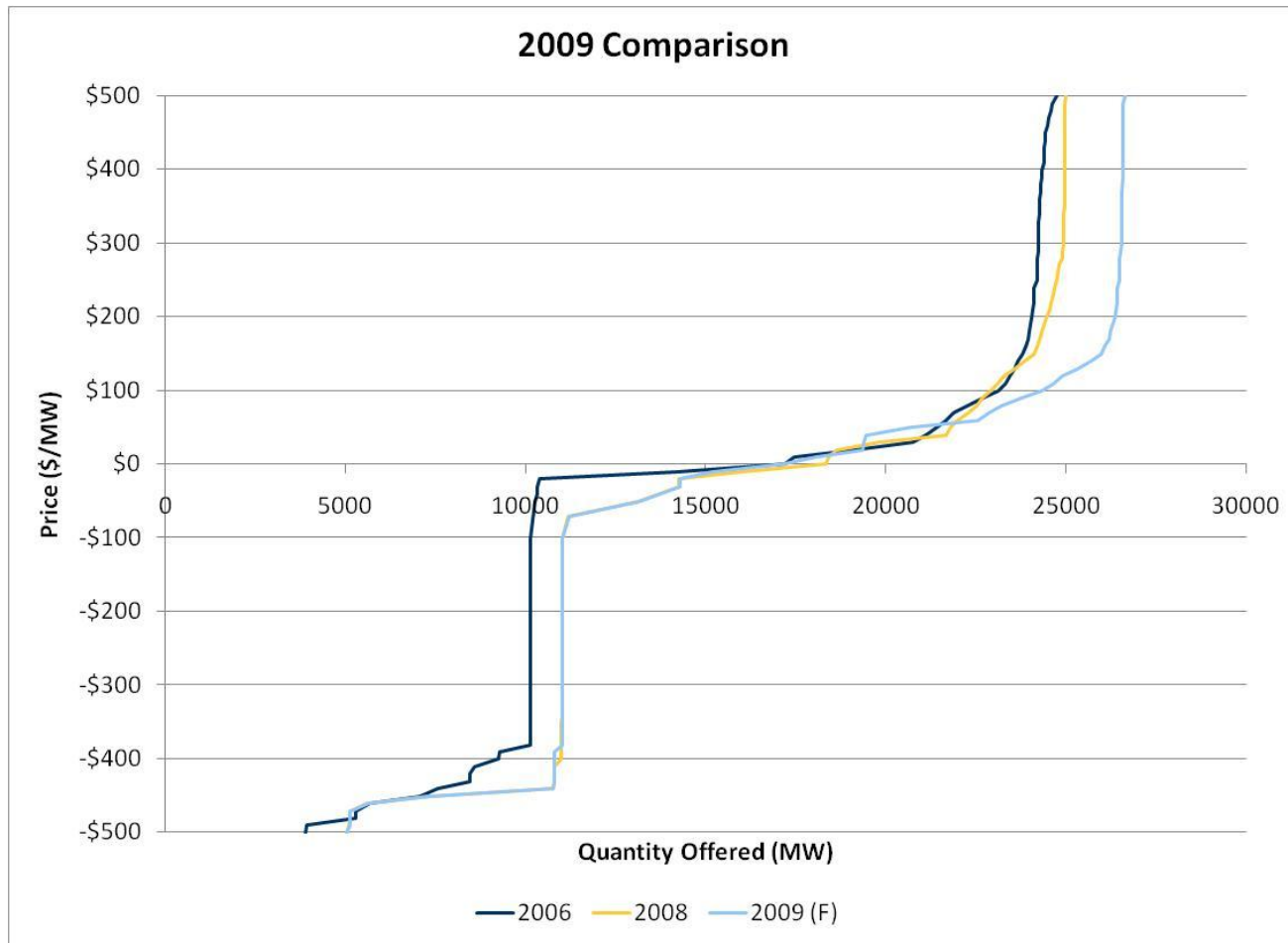
- The following supply curves were compared for each season and each on/off peak period:
 - ‘Future’ supply curves: 2009, 2011, 2013 and 2015
 - 2006 supply curve¹
 - 2007/2008 supply curve²
- The following slides show the comparison for Summer Peak Hours

¹ 2006 data used in original Pk vs. Avg price impact analysis

² 2008 data used to construct ‘future’ supply curves

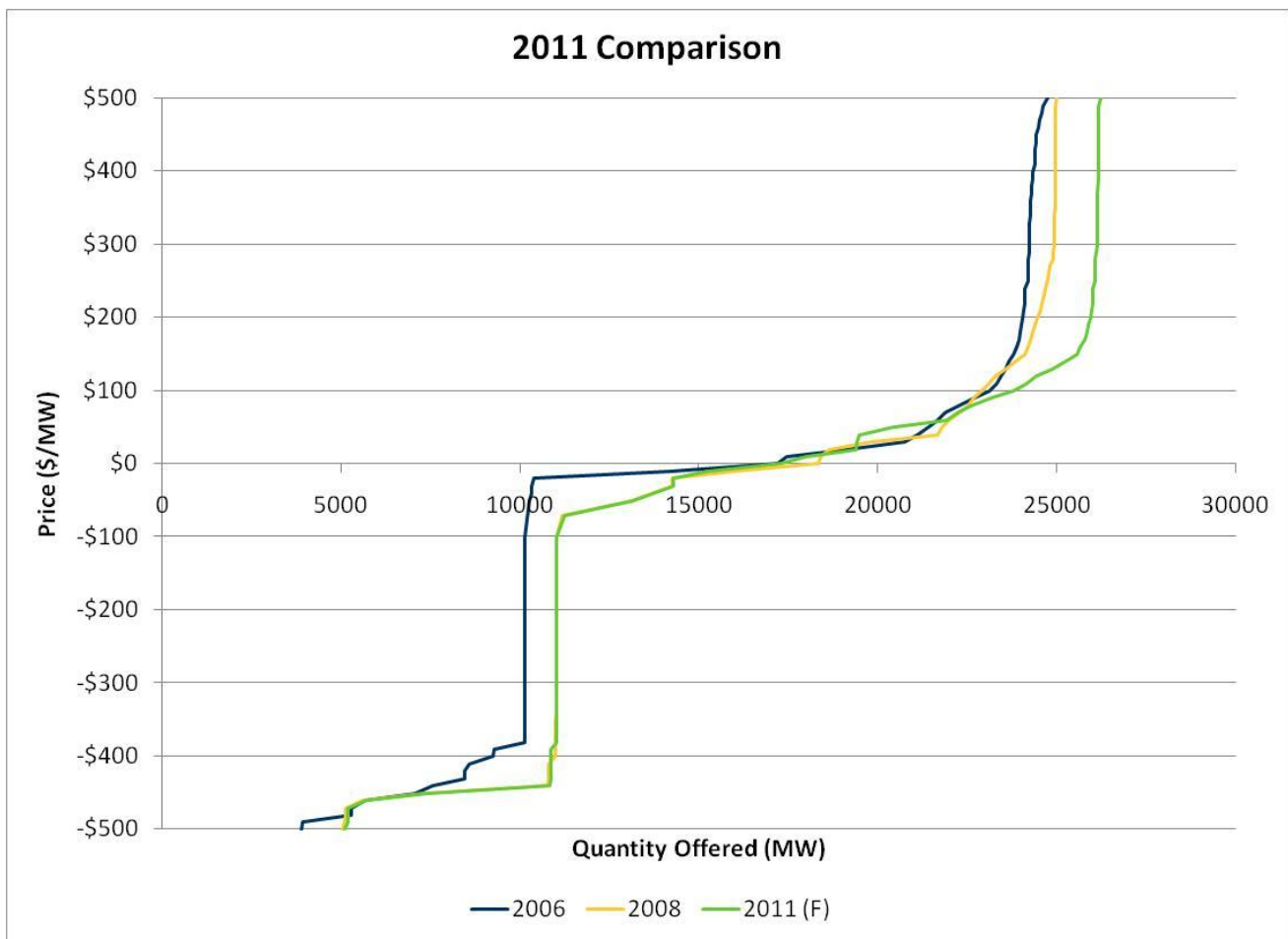
Example: Elasticity Comparison

2009 Summer Peak Hours



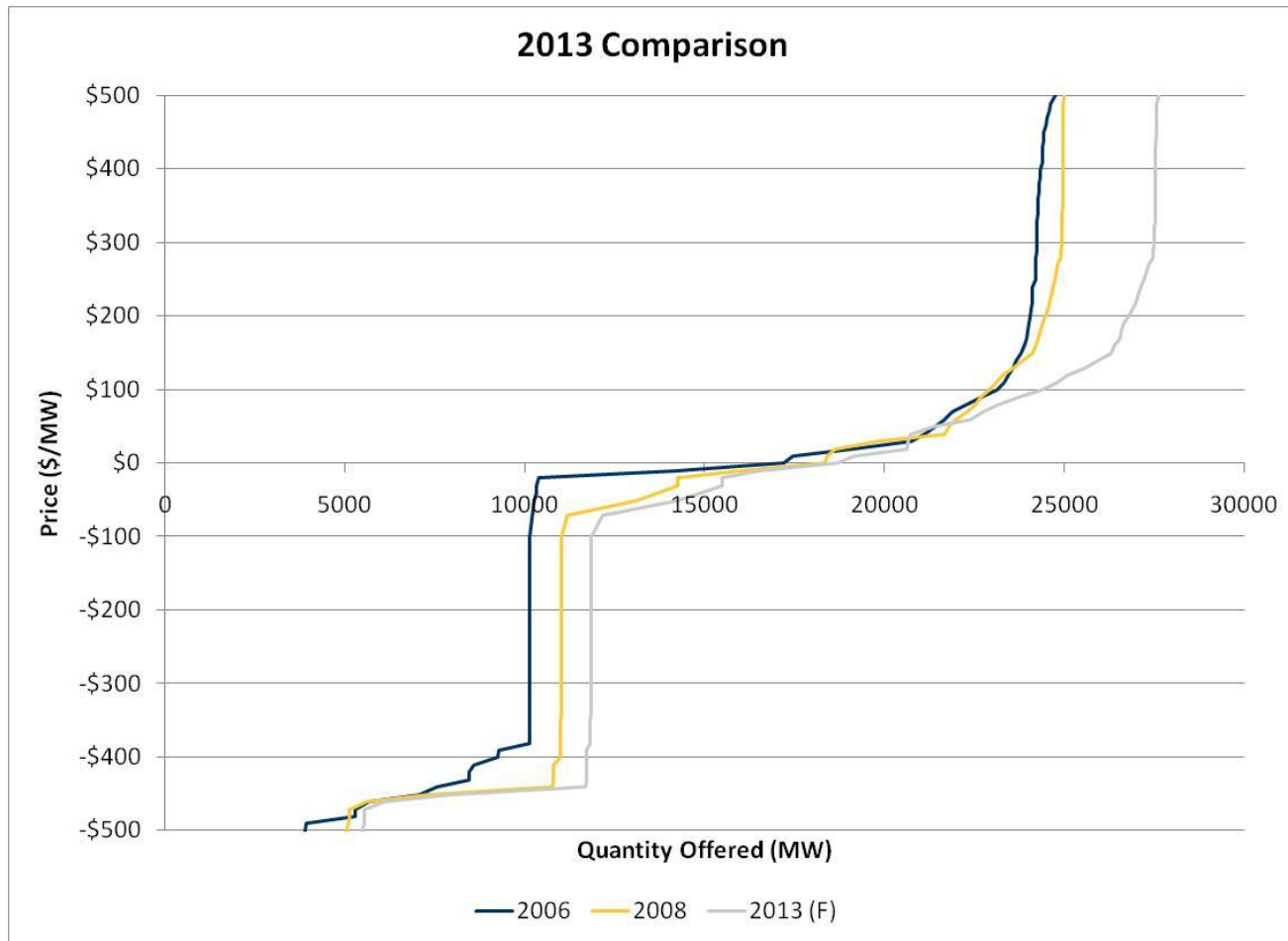
Example: Elasticity Comparison

2011 Summer Peak Hours



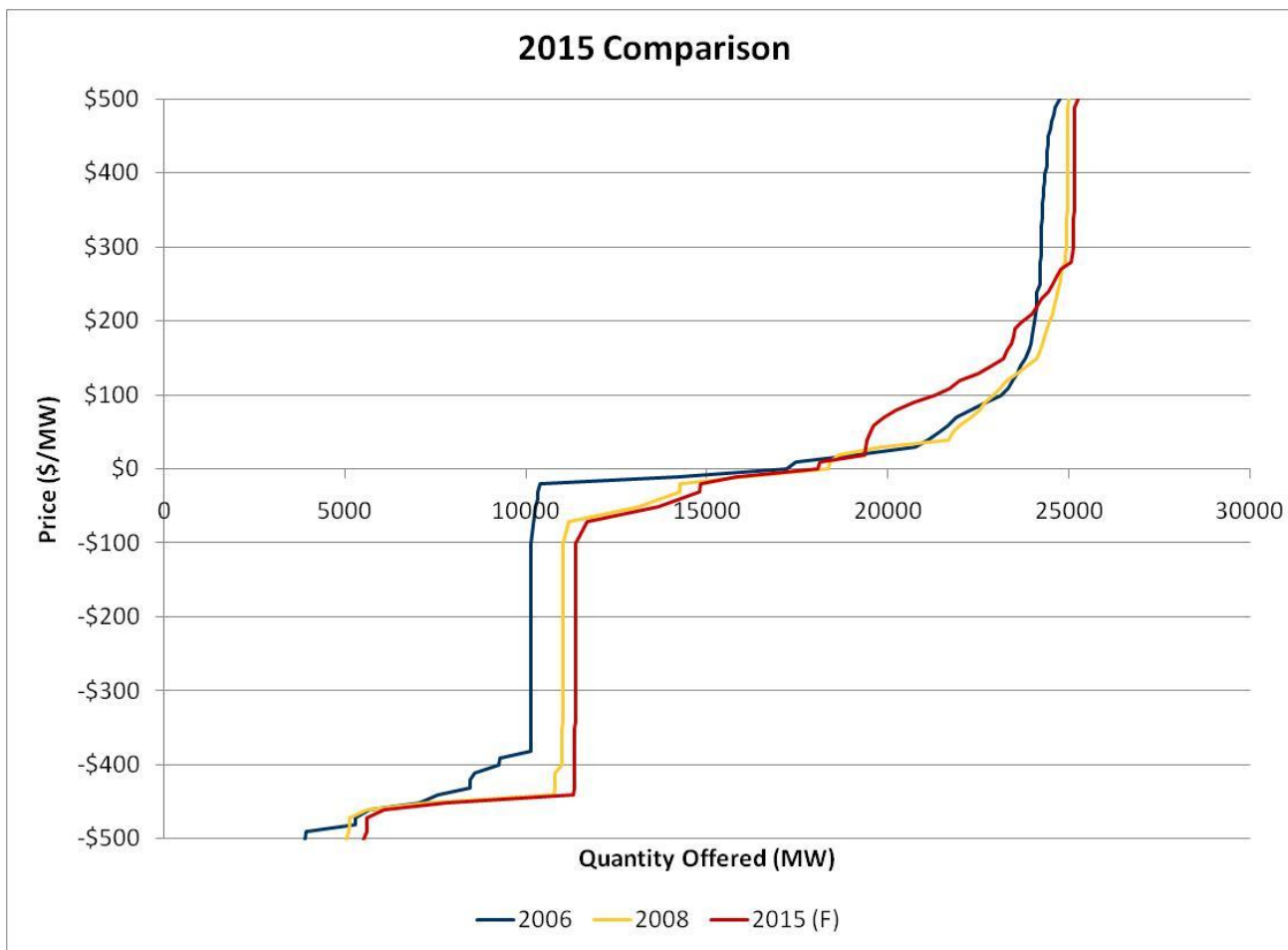
Example: Elasticity Comparison

2013 Summer Peak Hours



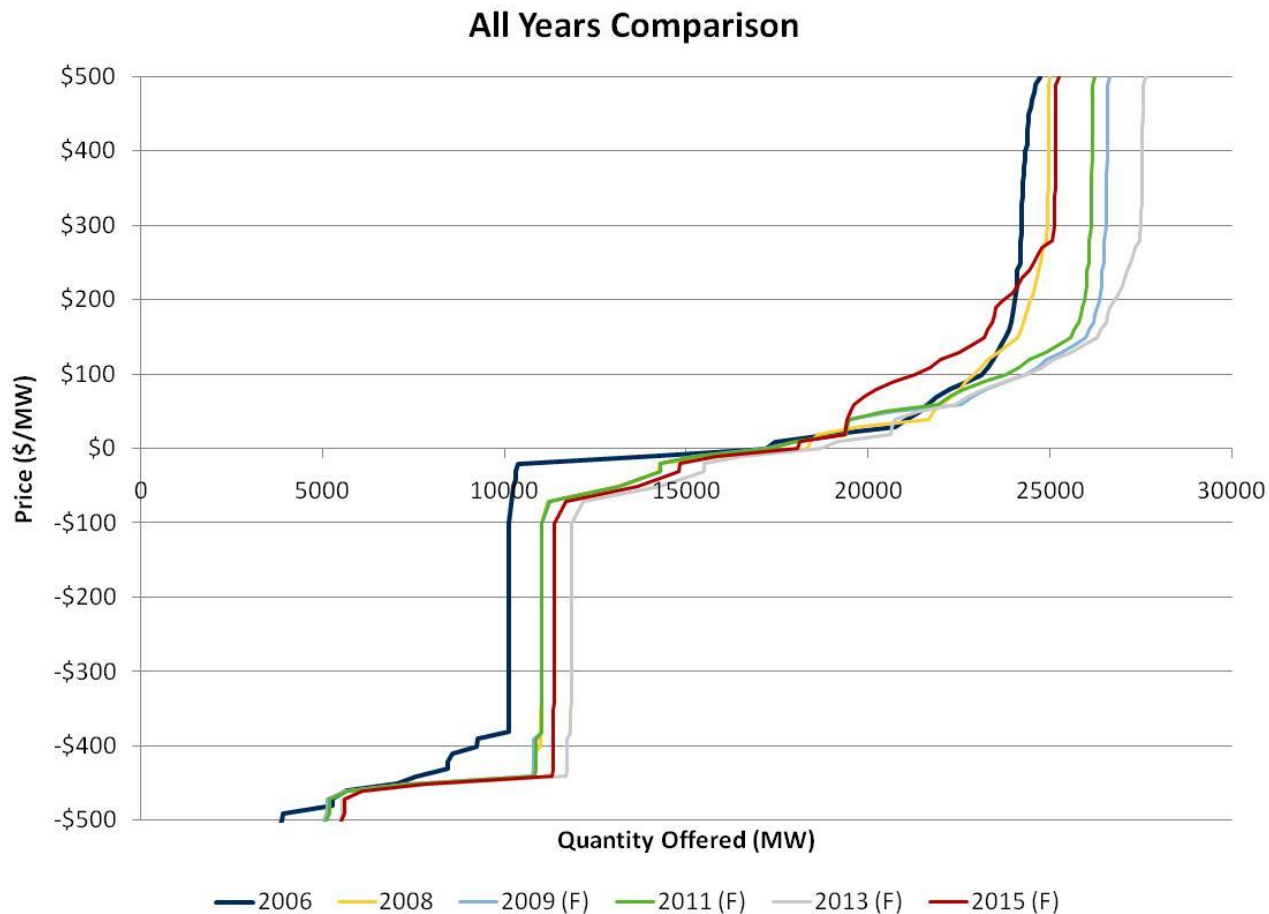
Example: Elasticity Comparison

2015 Summer Peak Hours



Example: Elasticity Comparison

All Years Summer Peak Hours



- Slope of supply curves for 2009, 2011 and 2013 similar to slope of 2006 supply curve → existing analysis holds
- Slope of 2015 supply curve appears steeper relative to 2006 supply curve → existing analysis potentially underforecasts price impact of moving to average demand forecast
- However, 2015 supply/demand balance consists of significant amounts of conservation, embedded generation, other demand-side components
- Slope comparisons for all other seasons and peak-periods are similar

- No evidence that ‘price increase’ analysis conducted using 2006 data is significantly impacted by changing supply mix before 2015
- Post-2015, increased contribution from various demand-side components may offset steeper supply curve