



Connecting Wholesale and Retail Pricing: A Look at Required Policy and Market Design Decisions

Amparo Nieto

Presented at the Harvard Electricity Policy Group

Dana Point, California

March 7th, 2013

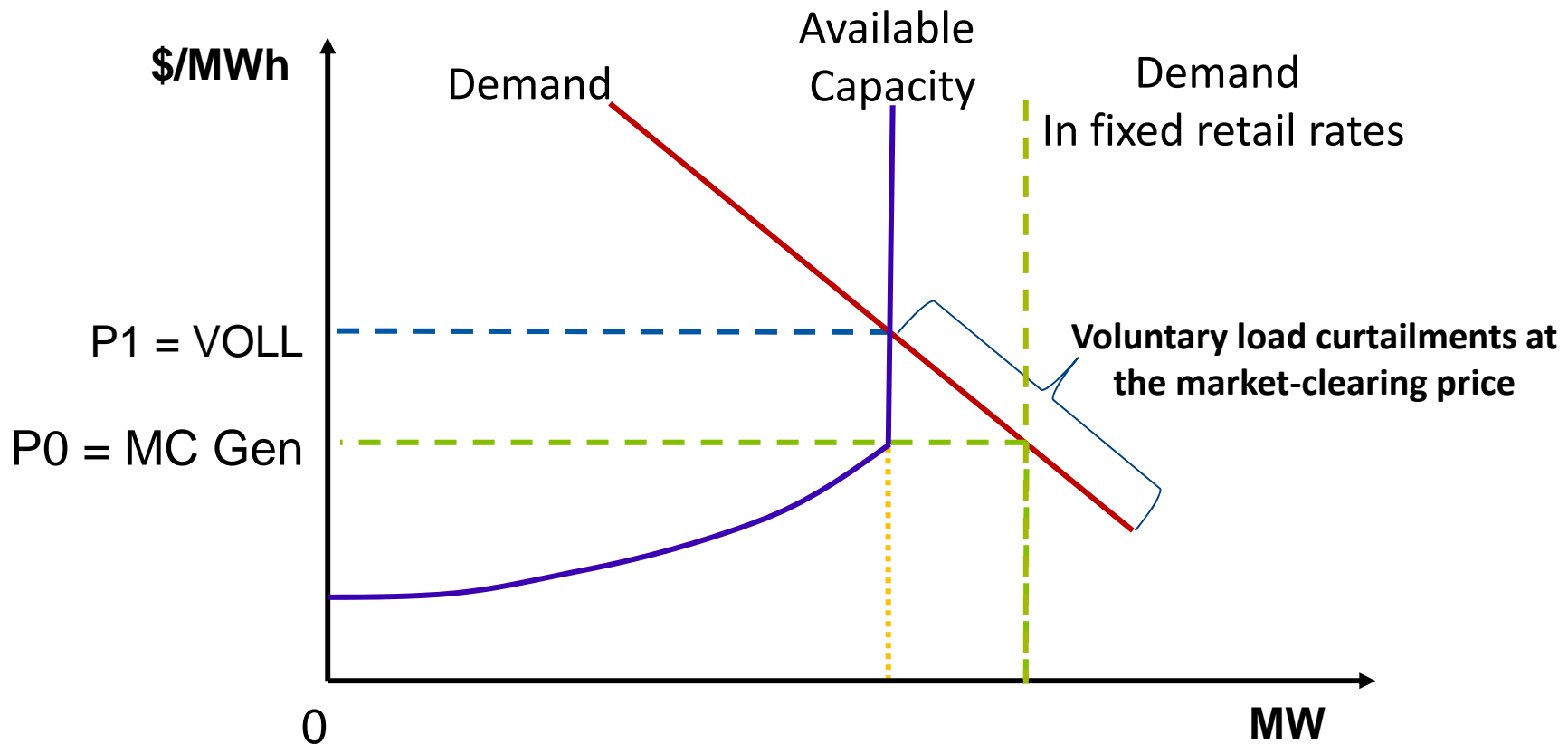
Wholesale Energy Markets – What are the existing constraints?



- Today's US wholesale markets are designed around a myriad of administrative parameters
 - Energy Price Caps
 - ISO-administered Capacity Markets
 - Out-of-market arrangements for emergency resources
 - ISO Scarcity Pricing for operating reserves

- Implications:
 - Market entry and exit incentives remain heavily influenced by regulatory policy decisions
 - Potential *higher cost (higher investments)* needed to maintain system reliability as compared to a less intervened market

What can “sensitive” demands do for the markets?



Price-Responsive Demand (a.k.a. PRD) enabled by smart meters can bring back the missing value of scarce capacity to the energy markets

What do We Have Now?



- “Supply-side” Demand Response (DR) resources (mostly C&I customers) are present and strong
 - Energy markets (Economic DR)
 - Capacity market (Emergency DR) – most successful
 - Ancillary Services Markets (Reserves)
- Main problem of supply-side DR is its reliance on customer baselines (prone to errors)
- PRD along with dynamic pricing is superior in that it allows a ***transition towards market-based incentives***

Other Added Value of PRD



- Predictable response of PRD in peak conditions should be factored in LSE's load forecast
 - Lower capacity obligations – the largest potential cost saving to a retailer
 - Lower planning reserve margins (e.g. the % above peak load to meet a LOLH target) and
 - Reduced role of capacity markets in signaling need for capacity expansion
- Retail dynamic rates that adopt *localized* (nodal or subzonal) triggering mechanisms of critical events will allow efficient price-setting

Dynamic Prices work differently from ISO supply-side DR programs



ISO – Emergency DR

6-10 hours per event, 10 -12 days June-Sep (Limited) or all summer (unlimited)

Notification: 2 hours

Incentives: ISO market capacity price and higher of Bid or LMP

Triggers: PJM emergency alerts, system-wide or locally

CPP/ PTR/ RTP*

Limits on Events: 6 to 4 hours per event, up to 10 to 12 days in Summer

Notification: Evening on the day before, or same day

Incentives: LMP + Capacity market price + Transmission + Distribution avoided costs

Triggers: PJM alerts/ DA weather forecast/ DA LMPs/ local network congestion

(* CPP = Critical Peak Pricing; PTR = Peak Time Rebate; RTP = Real-Time Price

What will Make PRD Succeed?



- PRD will only attract enough interest if the right platform is created at the ISO level – PJM’s new PRD plan is a step in the right direction
- Dynamic rates that include load automation (e.g. smart thermostats) will be most effective yet other options may also work with PRD
- Meaningful progress of PRD with residential customers will require state regulatory commissions to embrace dynamic rates for default service



Contact us

Amparo Nieto

NERA Los Angeles
213 346 3041
amparo.nieto@nera.com