

# Organized Markets and Baseline Capacity Development

A Presentation to the Electricity Committee

by

Nancy Brockway

NBrockway & Assoc.

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# NBrockway & Associates

- Former New Hampshire Commissioner
- Consulting and Expert Testimony
- Energy and Utility Issues

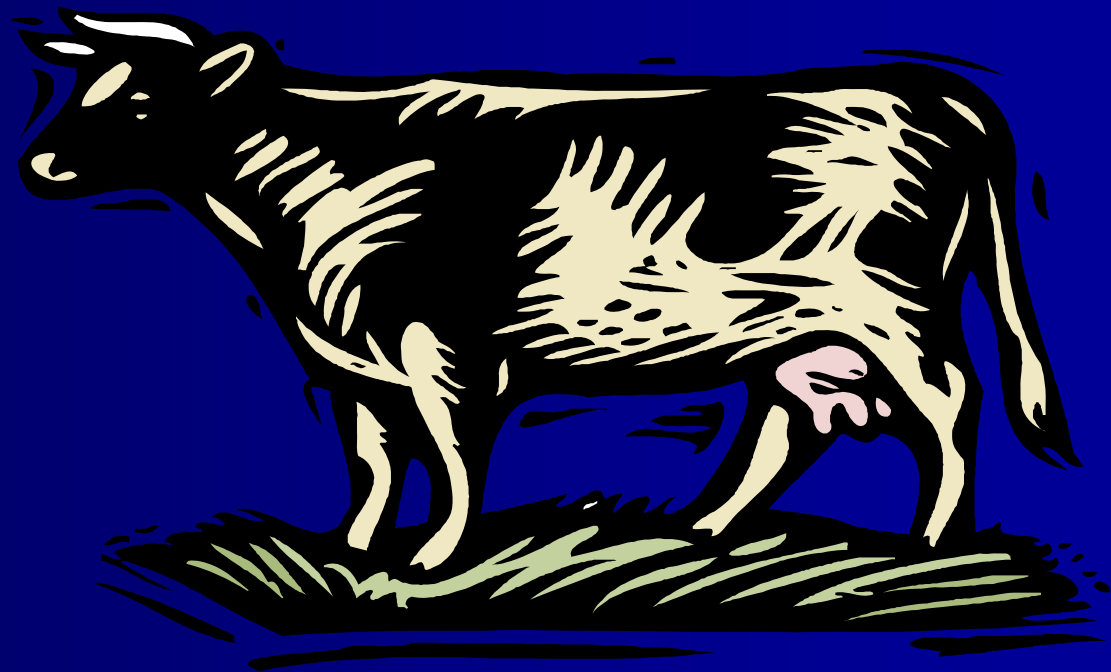
# Alphabet soup

VRRR  
PER  
LICAP  
LICAP

MRTU  
FCM  
RMR

LSE  
RPM  
CONE

# FERC MOO



# State resource requirements...

Good as far as they go,  
especially with IRP,



**BUT....**

# How do we know the price is right?

]If load won't commit long term,

And supply has

- no obligation to serve,
- no obligation to build,
- no obligation to sell energy at just and reasonable rates.

# I.e., How Do We Get More Baseload Generation ...

(For today, assume we need baseload)

*Assume need is baseload, not I or P.*

*Assume efficiency/DG/T&D won't be enough.*

*Assume large central stations*

*Assume other options are not less costly*

# ...using markets alone?

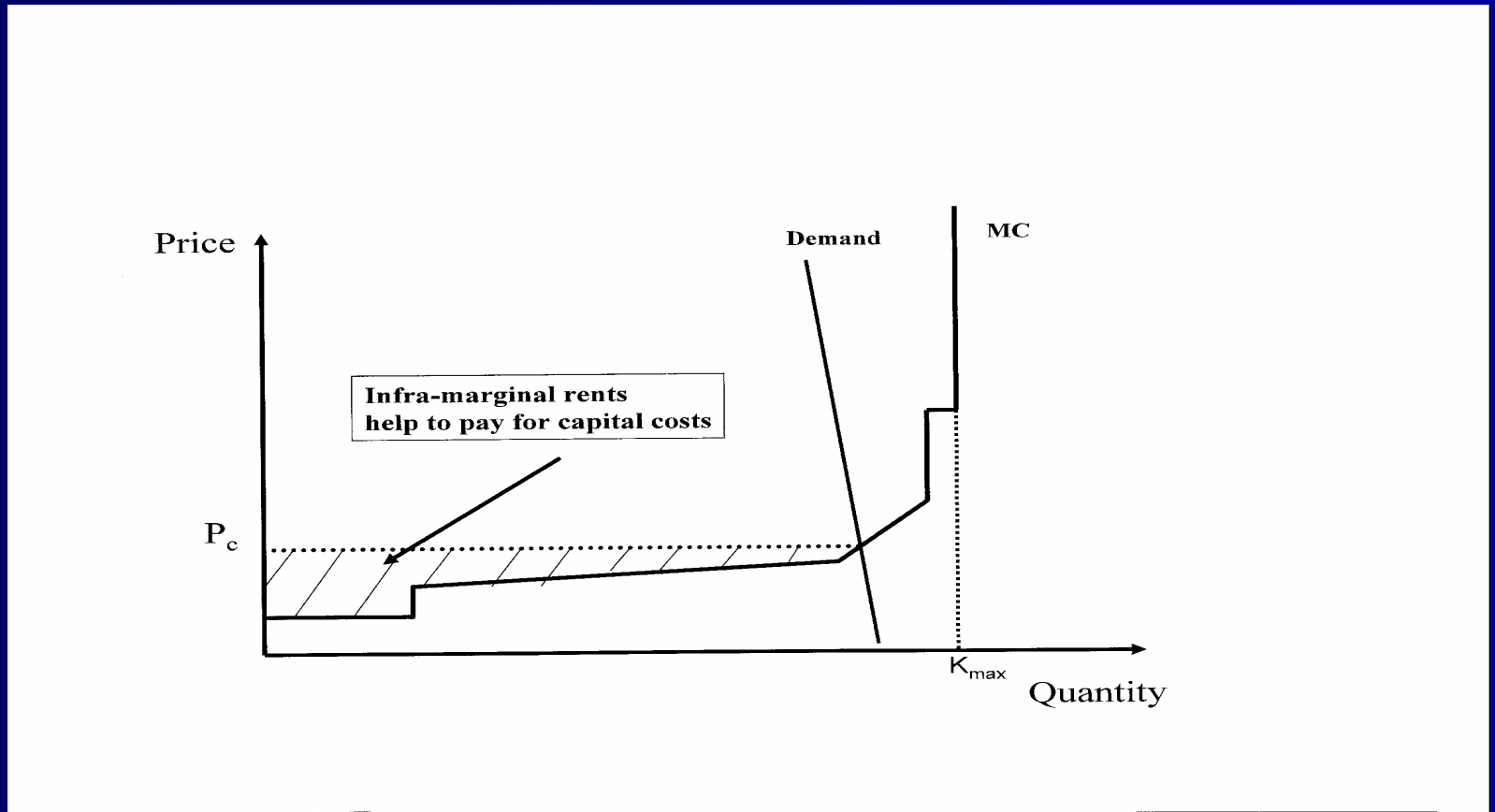
## ■ Organized Markets

- *ISOs, RTOs*
- *Security-constrained bid-based/least cost dispatch*
- *Settle and price imbalances in real time*
- *Some also settle day-ahead, and ancillary services*

## ■ **Not** vertically-integrated utilities

- *T&D monopoly regulated*
- *Generation competitive, unregulated*

# Energy Only – the theory



# Energy Only – the reality

## Electricity is a natural BOOM/BUST product:

- *High capital costs*
- *Can't store electricity – can't “draw from inventory”*
- *Not just one market, but many discrete markets,*
- *And have to integrate all output into a network*

## We've just had a bust phase.

- *Overbuilding (“irrational exuberance”)*
- *Bankruptcies, financial woes*

## But Wall Street is not playing again, yet.

- *Supply would have to tighten more.*
- *Prices would have to increase – A LOT.*
- *Then, MAYBE, could finance w/out output contract.*

**You can't make it up**

**on volume...**

**Consumers demand rate caps.**

**and**

**Consumers hate locational pricing.**

# So, if not energy-only market, what?

- States restoring obligation to serve
  - California long-term ( $\geq 5$  years) auction
  - Colorado -
    - utilities offer to build, then auction to beat price
  - Delaware - restore utility build obligation
  - Maine - Long term contracts
  - Others...

# What About Organized Markets?

- Mixed bag of sweeteners and forced contracting:
  - Reliability must-run designation/pricing
  - Scarcity pricing
  - Must-offer obligations (MOO)
  - Installed capacity obligations
  - Capacity deficiency charges
  - Forward capacity markets
  - Markets for ancillary services
    - E.g. Black start capacity, spinning reserves, 10-minute reserves, 30-minute reserves, etc.

# ICAP, SCHMICAP, What's the Difference?

- “LICAP” vs. “Demand Curve” vs. “RPM”
  - Essentially the same concept—
    - *Load pays if it is “short” on capacity*
    - *ISO buys to cover shortage*
    - *Payments should cover CONE of peaker*
  - Differ in how to calculate payments owed by Load
    - *Locational or postage stamp*
    - *Fixed capacity payment vs. Demand Curve, and*
    - *Fix price by administrative action or by auction*
    - *Seasonal, annual, up to 4 years forward*
  - “Strike Price” schemes – PER, bid caps, must bid
- BUT not *LONG* term

# PJM:

## Reliability Pricing Model

- LSE pays Locational Reliability Charge
- if short of Capacity Resources
- Set 4 years ahead of Delivery Year
- Incremental Auctions as get closer to DY
- Clearing result not price, but who/what
- Price set by Variable Resource Requirement
  - a Demand Curve
- Energy Revenue Offset – ave. rev. of new CT
- MOO for all existing capacity

# CAISO - MRTU

- Relies on state Resource Adequacy definitions and requirements
- CAISO backstops residual needs
- Must-bid requirement
- Penalties for non-performance

# Has NE Finally Got it Right?

- Auction is for capacity year 3 years out
- Consequences for non-delivery in out-years.
  - Penalize non-performing generators:
    - up to 1/10 annual FCA payment on any one day, and
    - up to 2.5 months of capacity payments in any one month
- Proxy bids for energy (PER)  $\approx$  “strike price.”
  - Cap energy payment at running cost of inefficient peaker
- [http://www.necanews.org/images/stories/linkable\\_documents/licap\\_filing\\_composite.pdf](http://www.necanews.org/images/stories/linkable_documents/licap_filing_composite.pdf)

*Still missing in the markets—  
long-term commitments by supply.*

- ISO-NE has (PJM developing) a commitment of supply to be there
  - at a known and limited price
  - in the 3<sup>rd</sup> or 4<sup>th</sup> year from now,
- BUT, no long term commitments
  - of supply to be built
  - and energy to be there
  - for the life of a unit,
  - at a reasonable price.

# So ---

- The jury's out on these administrative fixes.
- Still assumes electricity is a commodity.
- Are these really capacity markets, anyway?