Retail Competition: Should Markets Be Bifurcated Between Core and Non-core Customers?

Joseph Desmond
Deputy Secretary of Energy
State of California
California’s Energy Plan

1. Resource Adequacy
   - New Generation
   - Repower/retrofit Existing Plants
   - Distributed generation

2. Transmission

3. Wholesale Market Reform/Competitive Procurement

4. Rate Relief

5. Increasing Natural Gas Supplies
Energy Plan (cont.)

6. Retail Choice (Core/Non-core)
7. Renewable Energy
8. Energy Efficiency
9. Research & Development/Technology Transfer
10. Dynamic Pricing/Advanced Metering

Other
- Energy Agency Consolidation
- Aging Power Plants
(1) Resource Adequacy

- Require minimum 15% reserves margins by all sellers of electricity to avoid energy shortages.
  - Governor called upon CPUC in April to accelerate implementation by two years (from 2008 to 2006)
  - CPUC responded with new requirements adopting the Governor’s plan
  - CPUC now implementing details of resource adequacy rules
  - Rules account for all required generation and demand side resources to meet maximum demand
  - Other: Administration efforts earlier this summer secured an additional 320 MW in 90 days; Energy task force working to ensure short term supplies available for summer 2005; major new generation projects approved by CPUC
Support large customers’ right to choose their energy supplier
- Competition lowers prices; drives innovation; improve standards of customer service
- Prerequisites: No cost-shifting between small and large users; no “stranded” investment
- Reestablishment of Direct Access requires statutory repeal of ban
- Governor offered amendment to AB2006 that would enable Direct Access
- Will continue to work with legislature
Status: Core/Non-Core

- Core/Non-core was dropped from legislation earlier this year because parties were unable to reach consensus on:
  - Eligibility (200kw vs. 500kW)
  - Ability to aggregate to meet eligibility requirements
  - Coming and going rules:
    - Exit fees
    - Treatment of future stranded investment
    - Permanent election vs. right of return
    - Minimum notice period (ranged from 30 days to 5 year rolling notice)
  - Long term procurement plans under CPUC review not complete; disagreement over obligation-to-serve language
  - Resource Adequacy requirements not yet finalized
  - Provider of Last Resort options never fully explored
Requirement to address issue today

- Direct access is suspended, not terminated
- Load migration can occur today due to:
  - Municipal annexation
  - Direct access contract expiration and renewal with another supplier
  - Community choice aggregation
Moving forward

- Add third category: Core-elect
  - Qualifying customers have the right, but not the obligation, to choose a supplier
    - Default tariff: short term hourly prices
      - Complicated because of distortion of DWR contracts – there is no day ahead hourly price; will take time
    - Procurement rules limit amount of energy bought in the spot market to 5%
    - Permanent election

- Resource Adequacy rules in process of being adopted
  - Obligation imposed equally on all load serving entities
  - Capacity market under design
    - 12 month forward obligation for 15% - 17% planning reserve margin
    - Tradable capacity tags /secondary market function should allow for settlement based on actual

- POLR options to be explored in the coming months

- Pricing the risk premium:
  - Volume; Price; Credit; Performance; Political
Why haven’t residential and small commercial customers made a competitive choice?

- Questioning basic assumptions
  - Rational Ignorance?
  - Market barriers?
  - Marketing failures?
  - Other?

- Expectation of future behavior will shape view of whether we can expect
  - Permanent dichotomous market
  - Core/Core-elect/Non-core as a transition to fully competitive retail markets for all customer classes
Statewide Pricing Pilot (SPP)

Overview and Design Features
Residential CPP rates can, within five years of deployment, reduce the California’s peak load by 1,500 to over 3,000 mW.

Dynamic rates encourage greater conservation and peak demand impacts than conventional inverted tier or time-of-use rates.

Residential and small to medium commercial and industrial customers understand and overwhelmingly prefer dynamic rates to existing inverted tier rates.

Source: CEC staff conclusions based on review of collective SPP reports.
Pricing Pilot Objectives

1. Estimate usage (kWh) and demand (kW) impacts from different time-differentiated rate forms.

2. Estimate price elasticities and develop econometric models to examine the effects of weather, customer usage and other customer characteristics.

3. Estimate customer preference for dynamic and current rate forms.
Pricing Pilot
Significant Design Features

1. Approximately 2,500 participating customers.
2. CPUC, CEC and CPA cooperative regulatory proceeding.
3. SCE, PG&E and SDG&E cooperative joint-venture pilot.
   - Revenue neutral rate designs.
   - Linked to existing thermostat pilots mandated under SB970.
# Pricing Pilot – Experimental Design

<table>
<thead>
<tr>
<th>Track A – Random Sampling with Opt Out Design</th>
<th>Control</th>
<th>CPP-F</th>
<th>CPP-F Info Only</th>
<th>CPP-V SDGE</th>
<th>Info Only</th>
<th>TOU</th>
<th>Total Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>470</td>
<td>542</td>
<td>0</td>
<td>125</td>
<td>126</td>
<td>200</td>
<td>1463</td>
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<tr>
<td>Commercial &lt; 20kW</td>
<td>88</td>
<td>0</td>
<td>0</td>
<td>58</td>
<td>0</td>
<td>50</td>
<td>196</td>
</tr>
<tr>
<td>Commercial &gt; 20kW &lt; 200kW</td>
<td>88</td>
<td>0</td>
<td>0</td>
<td>80</td>
<td>0</td>
<td>50</td>
<td>218</td>
</tr>
</tbody>
</table>

| Track B – San Francisco Cooperative          |         |       |                 |            |           |     |                    |
| Residential (PGE)                           | 63      | 64    | 126             | 0          | 0         | 0   | 253                |

| Track C – AB 970 Sub-Sample                  |         |       |                 |            |           |     |                    |
| Residential                                  | 20      | 0     | 0               | 125        | 0         | 0   | 145                |
| Commercial < 20kW                            | 42      | 0     | 0               | 56         | 0         | 0   | 98                 |
| Commercial > 20kW < 200kW                    | 42      | 0     | 0               | 76         | 0         | 0   | 118                |
| TOTAL PARTICIPANTS                           | 813     | 606   | 126             | 520        | 126       | 300 | 2,491              |

System-wide Impacts
Own-Price Elasticities
California SPP vs. Nationwide Historical Results

Source: Predicting California Demand Response, Chris King and Sanjoy Chatterjee, Public Utilities Fortnightly, July 1, 2003, p.27-32.
Short-Run versus Long-Run Elasticity Measures

<table>
<thead>
<tr>
<th>Climate Zone</th>
<th>Short-Run Elasticity¹</th>
<th>Long-Run Elasticity²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>-0.12</td>
<td>-0.60</td>
</tr>
<tr>
<td>Medium</td>
<td>-0.20</td>
<td>-0.90</td>
</tr>
<tr>
<td>High</td>
<td>-0.35</td>
<td>-1.20</td>
</tr>
</tbody>
</table>

1. Short-run – customers make no change in appliance holdings.
2. Long-run – customers change appliance holdings and invest in more efficient operating practices.

Source: Predicting California Demand Response, Chris King and Sanjoy Chatterjee, Public Utilities Fortnightly, July 1, 2003, p.27-32.
Customer Acceptance
Existing Inverted Tier Rates
Customer Understanding

What it means

1. Customers don’t understand how electricity use is measured.
2. Customers don’t understand how electricity is priced.
3. There is an uncertain and inaccurate link between how customers use energy, what they pay and what they get in service value.
4. Bill accuracy – customer’s must trust their supplier. No other choice.

Dynamic Rates
Customer Understanding

“...most respondents could easily understand the logic of time-differentiated electricity prices,..”

“...customers understood time-differentiated pricing (at least the on-peak / off-peak variety) more easily than they understood the notion of inclining block [tiered] or declining block pricing.”

SPP Customer Rate Preference

<table>
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<tr>
<th></th>
<th>Original Inverted Tier Rate</th>
<th>Pilot Rates</th>
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<tbody>
<tr>
<td>CPP-V</td>
<td>20%</td>
<td>80%</td>
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<tr>
<td>CPP-F</td>
<td>23%</td>
<td>77%</td>
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<td>TOU</td>
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Percent that Prefer

Residential

CPP-V 30% 70%
CPP-F 23% 77%
TOU 19% 81%

Commercial

CPP-V 30% 70%
CPP-F 23% 77%
TOU 19% 81%

Summary

- Better information is needed to enable residential and small commercial customers to make rational, informed choices
- Policies and infrastructure are required to support free flow of data between market participants, subject to security and privacy needs
  - Requires a significant investment
  - Offers significant operational, system and customer benefits
- Should help to resolve debate over customer behavior; no more excuses