

Harvard Electricity Policy Group Thirty-sixth Plenary Session

October 7-8, 2004

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

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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
- Updating bi-annual Integrated Energy Policy Report (IEPR)
- 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

(6) Retail Choice (Direct Access)

- 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 chose 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

SPP Conclusions

System Wide Impacts

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

Conservation and Peak Load Impacts

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

Customer Acceptance

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

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 a 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

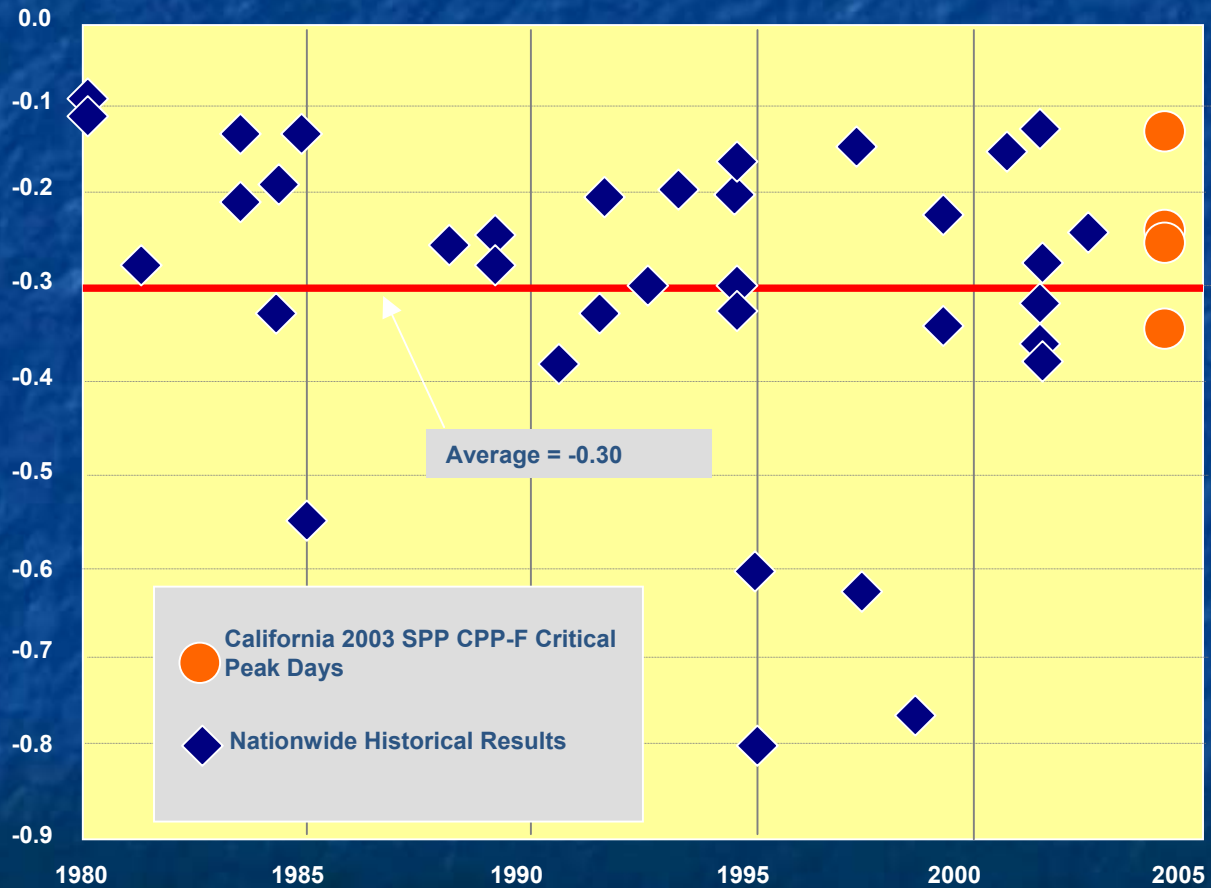
	Control	CPP-F	CPP-F Info Only	CPP-V SDGE	Info Only	TOU	Total Participants
Track A – Random Sampling with Opt Out Design							
Residential	470	542	0	125	126	200	1463
Commercial < 20kW	88	0	0	58	0	50	196
Commercial > 20kW < 200kW	88	0	0	80	0	50	218
Track B – San Francisco Cooperative							
Residential (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

Source: Statewide Pricing Pilot, Summer 2003 Impact Analysis, Charles Rivers Associates, August 9, 2004.

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

Historical Studies Own-Price Elasticity Results

Climate Zone	Short-Run Elasticity ¹	Long-Run Elasticity ²
Low	-0.12	-0.60
Medium	-0.20	-0.90
High	-0.35	-1.20

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

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

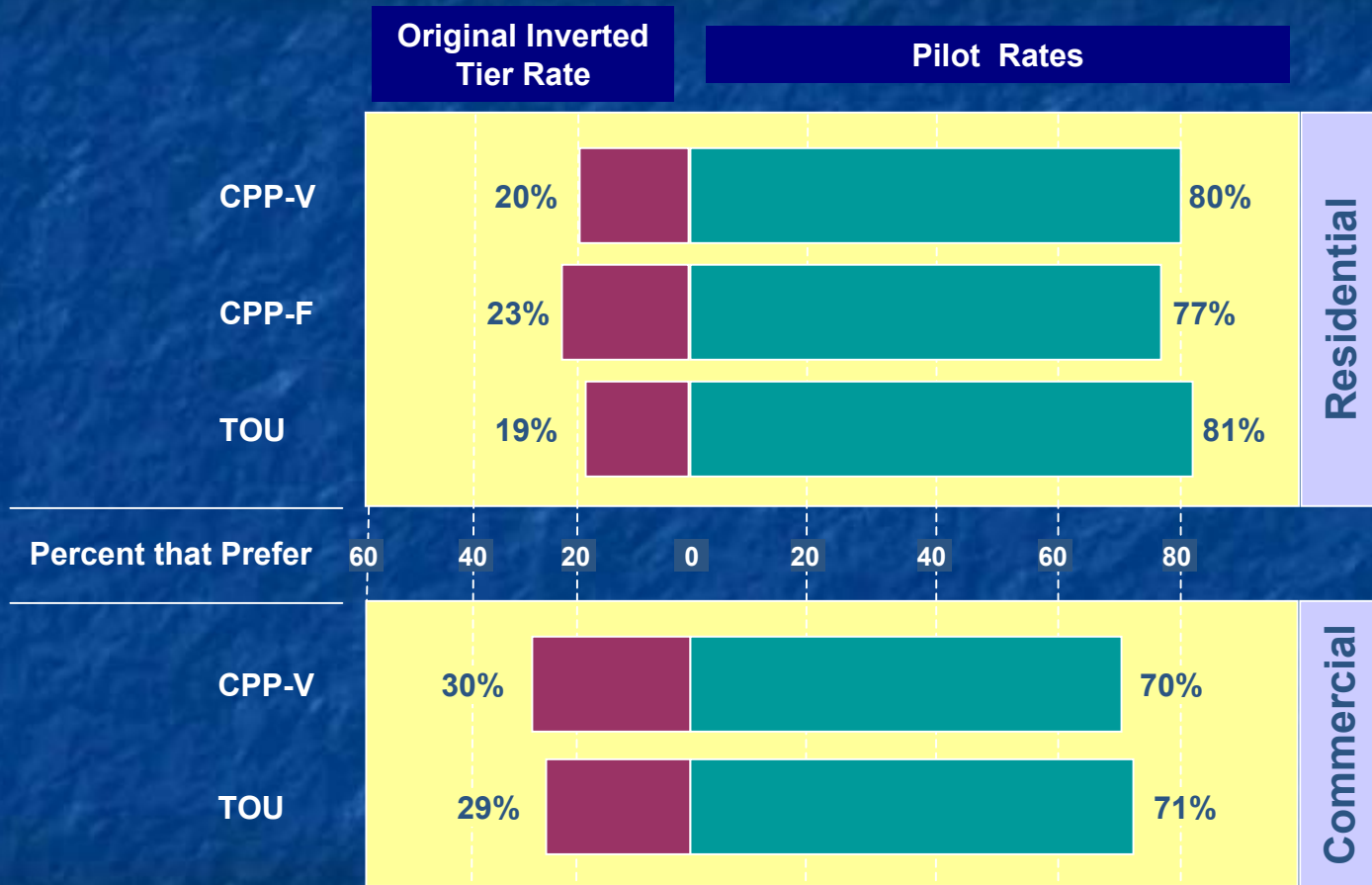


“..most respondents could easily understand the logic of time-differentiated electricity prices,..”



“..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



Source: SPP End-of-Summer Survey Report, Momentum Market Intelligence, WG3 Report, January 21, 2004, p23-24.

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