Negawatts: Is There Life After the CPUC Order?

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What They Did

- **Perhaps the most radical PUC proposal in U.S. history**
- **Has any U.S. regulator ever before said its life is so irreparably unsatisfactory that the only remedy is institutional suicide?**
- **Internal cookery, then surprise announcement 20 April 1994**
- **"Consumer choice through direct access—'retail wheeling'...—represents the cornerstone of our vision"**
- **Rulemaking/investigation with due deliberate haste**
  - 30 days for comments, 15 for replies, 1 *en banc* hearing
  - Policy to be set August 1994
  - Costs and prices to be set September 1994–May 1995
  - Law to be changed & implementation to start January 1996
- **Presumes full cooperation from Legislature, FERC, EPA, DOE,...**

What They Propose to do (part 1)

- **Ultimately all customers can choose unbundled "direct access"**
  - Big industrials can start January 1996, all others 1997-2000
  - Pay "competition transition fee" for stranded assets
  - Choose any competing supplier; flexible pricing
  - Can return to grid on 1 year's notice (less with surcharge)
  - Shareholders profit/lose from pricing, but within limits
  - No obligation to serve, no generation monopoly franchise
  - But still "supplier of last resort" for all customers
  - Regional transmission groups; access "not unduly discriminatory"
- **Any customer can choose to keep normal "utility service" instead**
  - Tariffed, bundled, obligation to serve
  - Customized "performance-based regulation," ROR band

What They Propose to do (part2)

- **U.K.-style real-price or -revenue cap is now basis of ratemaking**
- **Utilities encouraged to exit the generating business**
- **But dis-integration of generation from wires business explicitly rejected**
- **Customers' exposure to financial risk of IPPcontracts limited**
- **Profits re-linked to non-DSM demand changes (weather,...)**
- **Power procurement deregulated completely for direct, mostly for service customers; portfolio planning function delegated or abolished**

Expressed Motives

- **Markets make better decisions than regulators**
- **Competition is good, more competition is better**
- **Regulation is difficult, cumbersome, and costly**
- **California rates are too high**
- **Solving these problems needs immediate retail wheeling**
- **"Vibrant" private sector can now do all needed DSM if unshackled**
- **All constituencies want regulatory reform; some may want this kind**

Explicit Assurances

- **Public interest (equity, environment,...) will be protected**
- **No reallocation of costs between rate classes**
- **No reallocation of direct customers' costs to service customers**
- **No other cross-subsidy**
- **Small customers will pay no more**
- **Shareholder value will be protected**
- **First big, ultimately all, customers will have the choice to pay less**
- **Don't worry—it's only an experiment, and we'll monitor it closely**

Basic Issues

- **Something for nothing—many winners, no losers**
- **If that's possible, will the proposal achieve it?**
- **Ends explicit, means vague, no numbers**
- **Important effects may be irreversible, possibly starting already**
- **Who will protect the public interest?**
- **Who will be politically accountable?**
- **Needs major changes in state and perhaps Federal laws/regulations**
- **Tight timetable, inverted sequence, invites litigation, fosters uncertainty**
- **Will intended consequences outweigh unintended consequences?**

DSM Changes

- **For direct customers**
  - No decoupling; shareholders eat lost revenues
  - No shared savings; all risks and rewards to shareholders
  - No general ratepayer $, only shareholder $
- **For service customers**
  - Decoupling only for revenues lost to efficiency, not for upside; incentive to sell more energy thereby restored (along with forecast gaming and weather-dependence of profits)
  - All DSM outsourced by competitive bid
  - May eliminate shared savings
  - May prohibit all utility incentives (at least with ratepayer $)
- **But all customers pay subsidies to "economic development" rates,...**

Unintended DSM Consequences (Part 1)

- **Virtual disappearance for direct customers**
  - Customers' fixed costs rise, variable costs fall (by half?)
  - Flexible pricing makes benefits less predictable
  - No funds, no incentives, no decoupling, "utility as ESCO"
- **Grave impairment for service customers**
  - Utility's old reward for increased consumption restored
  - Investments may be restricted to shareholder funds
  - But shared savings may be eliminated too
  - Stronger incentives for cream-skimming, dis-integration
  - Savings therefore become smaller, less cost-effective
- **U.K. ratemaking system notoriously hostile to efficiency resources**
  - U.K. Regulator considering decoupling as CPUC drops it

Unintended DSM Consequences (Part2)

- **Contradicts CPUC's recent upholding of ERAM and finding that CAIOUs' 1990–93 DSM saved $2 billion net—but no new evidence**
- **Resumes rewarding utilities for selling more energy, not cutting bills**
- **Rewards DSM that looks good, spends lots, saves nothing**
- **Private ESCOs unready to fill gap**
- **Profound market failures continue to dominate efficiency purchases**
- **Cream-skimming will make most negawafts permanently unavailable**
- **Abandons least-cost principle**
- **Fair competition between demand- & supply-side options vanishes**
- **Return to massive misallocations to supply—*more* uneconomic assets!**

Unintended Equity Consequences

- **Direct customers (an ever-increasing share) have flexible pricing**
- **Those with most market power pay least, others more**
- **So within each direct-customer "rate class," small subsidize big**
- **Worse if rate classes shift or are further subdivided**
- **Ramsey pricing conflicts with principles of equity and with nondiscriminatory, just, and reasonable rates required by California law**
- **CPUC also wants to move low-income programs out of utilities and convert them into tax-supported welfare programs**

Unintended Environmental and System Consequences

- **Resource planning reduced to vague consultation (for service customers only), left to market for direct customers**
- **No more environmental shadow prices**
- **If it isn't internalized by laws like Clean Air Act, it won't count**
  - Not in resource portfolio planning (no longer done)
  - Not in resource acquisitions (made in private market)
  - Not in price formation (no environmental price signal)
- **Minimal compliance will thus displace statutory foresight and choice**
- **Bizarre echo of Moscovitz's "green pricing" surcharges conscience**
- **Commodity cost pressure will cause further atrophy of utility R&D**

Unintended Risk of Bypass

- **CPUC would find and unbundle "uneconomic" assets (~$10B?)**
- **Their costs are to be recovered by a universal wires charge**
- **But it's not actually universal: IOU systems *only* (3/5 of CA)**
- **New incentive for direct customers to bypass via public system**
- **Extensive public grid, expandable privately or under liberal municipalization law, unregulated, not subject to transition fee**
- **So CPUC's capitalist impulse could be a big boost for socialism**
- **Bypassing transition fee hurts small customers; not bypassing it greatly reduces benefits sought by big customers**
- **CPUC doesn't analyze or mention potential bypass**

UNINTENDED SERIOUS THREATS TO IOUS

- **Potential bypass by the public system**
  - Hard to restrict municipalization
  - Alternative: rapid write-offs of uneconomic IOU assets
  - Potentially huge confiscation of shareholder value
  - Biggest owners: CApensions & small investors
- **Asymmetry of risks and opportunities**
  - Out-of-state utilities can sell to CAcustomers
  - But not vice versa (no incentive to reciprocate)
- **Erosion of margins by wholesale & retail competition**
  - DSM profits (shared savings) threatened or eliminated
  - Past deals (Diablo, prudence ,...) honored only rhetorically
- **Wall Street concurs: ~$4B share value loss since announcement**
  - PG&E stock down 21%, SCE 12%, SDG&E 18%

UNINTENDED CONSEQUENCES FOR RESOURCE PORTFOLIO

- **Deep forward wholesale markets would justify simplified planning**
- **But diversification, reliability, enforceability, remedies,... not handled by the market**
- **Statutory renewable deployment delegated and unlikely**
- **Markets ignore most distributed-resource economic benefits to system: more misallocation to uneconomically centralized resources**
- **Not all policy and engineering goals are reflected in private market**
- **System will weaken against major contingencies**

WHAT'S HAPPENED SO FAR

- **No political groundwork, most actors astounded**
- **Wall Street distressed, further inhibiting utilities' response**
- **Potential losers mobilizing—could prove angry and powerful**
- **Big industrials told CPUC they want lower rates, *not* retail wheeling**
- **Who wants it? No apparent constituency outside CPUC**
- **Major residential customer group favors municipalization**
- **Stinging rebuke from legislative leaders; CPUC budget zeroed**
- **Federal response pending**
- **Schedule clearly unrealistic**
- **Could become issue in November 1994 Gubernatorial race (changing CPUC?)**

PREDICTIONS AND CAUTIONS

- **CPUC will try hard but face stiff opposition**
- **If CPUC succeeds...**
  - Surprises (If not, why deregulate?–Alfred Kahn)
  - Rapid acceleration out of deregulatory control
  - Losers may far outnumber winners; negative-sum game?
  - Three clear winners: consultants, lobbyists, and lawyers
  - A few other jurisdictions may imitate or shudder, most will wait and watch, and all will move in diverse directions
- **If not ... a cautionary tale to others so minded**
- **"Regulatory compact" already shattered**
- **Years of pervasive confusion likely nationwide**
- **Ultimately, political sense will largely prevail over economic theology**

A MODEST PROPOSAL

- **Try to achieve intended without unintended consequences**
- **Fix, don't scrap, existing system—already among the best**
- **Continue to refine existing regulatory incentives to cut bills**
- **Just wholesale competition exposes uneconomic assets**
- **Improve DSM's competition and cost-effectiveness without tearing up its foundations and creating perverse incentives**
- **Refer to existing Collaborative for 6-month effort to sort out any of CPUC's innovative proposals that may have real, practical value**
- **Perhaps not yet too late to avoid paralyzing conflict and confusion**

BROADER LESSONS

- **If you've got a dog, don't bark; if you have a Collaborative, use it**
- **Peril lurks when ideology gets too far ahead of politics**
- **Retail wheeling is not fate but choice—Commissioners' choice**
- **Retail wheeling is more like an enthusiastic armadillo than a grim juggernaut**
- **Economic recovery and depreciation are eroding the uneconomic assets and rate pressures that had prompted such radicalism**
- **More and cheaper negawatts are essential regardless**
  - With retail wheeling, they differentiate service (as wholesale rates get more competitively leveled), boost value, build customer success and loyalty, and offer the most powerful defense against mere electronmongers without a bundle of desired attributes
  - Without retail wheeling, they still provide vital and profitable economic and service benefits to both customers and utilities
  - So it's essential to make negawatts work better and cost less

Old Methids: Finance or Market Negawatts (PartI)

(Can maximize participation & savings per participant)

- **Public information (exhortation and education)**
- **Targeted technical information (builders, designers)**
- **Low- or no-interest loans (usually for weatherization)**
- **Gifts ("full financing"—cheaper than loans)**

Old Methods: Finance or Market Negawatts (Part2)

- **Rebates (targeted, or generic for kW or kWh)**
  - To buyer, seller, manufacturer, other trade allies, combinations
  - Couple with scrappage of old devices
  - For beating minimum equipment standards
  - For better *design* instead of hardware
- **"Golden carrots" to elicit innovation**
- **Equipment leasing (20¢/lamp-month...)**
- **Third-party investors and utility service companies**

New Methods: Make a Market in Negawatts (Part 1)

(Can also maximize competition in who saves & how)

- **Competitive bidding processes**
  - Industrial modernization grants
  - Generalized ("all-source") auctions
- **Fungible savings (with transmission credit?)**
- **Wheeling savings between customers, utilities, and nations**
- **Arbitrage between cost of megawatts and negawatts**

New Methods: Make a Market in Negawatts (Part2)

- **Negawatt/megawatt spot, futures, and options markets**
- **Peak-load covenants traded in secondary markets**
- **Efficiency cross-marketing**
  - By electric utilities
  - By gas utilities
- **Performance-linked hookup "feebates" for new buildings**
- **Targeted mass retrofits, especially of commercial lighting**

Eight Ways to Make Negawatts Work Better and Cost Less

1 **More bang per buck: better technological content**
- ✓ More modern, better selected technologies
- ✓ Bundle into integrated packages (ACT2)
- ✓ Improve application, then equipment

Eight Ways...

2 **More bang per buck: better program designs**
- ✓ Restructure rebates: direct to manufacturers or distributors
- ✓ Scrap bad old equipment to avoid repeats
- ✓ Maximize free drivers via outreach
- ✓ Maximize free riders to transform markets
- ✓ Maximize competition
- ✓ O&W commissioning/training/education
- ✓ Count all benefits
- ✓ Slash transaction costs

EIGHT WAYS...

3 Bootstrap from savings elsewhere in the utility
- ✓ Generation (efficient auxiliaries improve heat rate, flexibility, availability)
- ✓ Transmission and distribution (precision-guided programs)
- ✓ G&A(efficient HQ, other facilities, boosted labor productivity)
- ✓ Monetize freed-up emission rights

EIGHT WAYS...

4 Get participating customers to pay more
- ✓ Industrial modernization grants (CMP)
- ✓ Shared-savings (PacifiCorp FinAnswer), hybrid (SCE ENvest), bonus (LAW Fund), end-use pricing (WEPCo)
- ✓ Leasing (Alberta Power), rebate/loan choice (Burlington Electric, WP&L)
- ✓ Market non-energy attributes beyond energy savings: productivity, quality, amenity, waste minimization, pollution prevention
- ✓ Soft commercial leasing markets and CFC conversion as marketing opportunities

EIGHT WAYS...

5 Get third parties to pay more
- ✓ ESCOs
- ✓ Wheel negawafts between customers or utilities—"virtual ESCOs"
- ✓ Revenue-neutral feebates
- ✓ Multi-resource consortia
- ✓ Marketing partners
- ✓ Retrofits marketed to financial institutions

EIGHT WAYS...

6 Pay from new DSM-created profit centers

7 Incentivize utility staff

8 Rethink the conceptual foundations of DSM
- ✓ Harness new social-science understanding (energy anthropology)
- ✓ Shift from rebating equipment to correcting market failures: focus accordingly on institutional analysis

THE NEXT PHASE OF THE NEGAWATT REVOLUTION

- **There is an enormously powerful menu of ways to get far bigger and cheaper savings than most utilities now do.**
- **Utilities can obtain and use the information they need to do this.**
- **Incentive regulation, like decoupling plus shared savings, can reward and motivate utilities to cut customers' bills, not to sell more energy; do you have it yet?**
- **Better, cheaper, faster efficiency will benefit everyone, under *any* competitive evolution of the utility system.**
- **Retail wheeling makes efficient use even more vital.**