

Rate Design for TOU Rates and Dynamic Pricing

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Outline for Discussion

- Rate design principles for TOU & dynamic pricing
- Prospects and opportunities for energy efficiency, load shifting, and dynamic load response
- Customer perspectives on TOU & dynamic pricing
- Emerging issues as CAISO MRTU is implemented

Rate Design Overview

- Costs are allocated by rate class and function (generation, transmission, distribution, public purpose), generally using marginal costs scaled to revenue requirement
- TOU and dynamic pricing requires assignment of capacity costs to limited numbers of identified peak period hours, generally summer season peak hours
- TOU rates have been mandatory for very largest customers (over 500 kW) since late 1970s, and optional TOU rates have been available for smaller customers since mid 1980s
- CPP rates have been offered as new rate option for large customers since 2003, and are being made available now for small customers as AMI meters are deployed

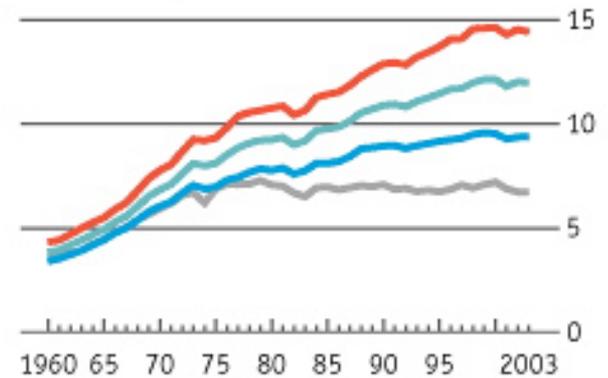
Prospects and Opportunities

- California has achieved a very high degree of energy efficiency -- through sustained efforts and policies over last three decades
- Further gains can surely still be achieved for energy efficiency, load shifting
- As less energy is used overall and as load is shifted outside of peak periods, may be less opportunity for dynamic load response
- Large customer market segment is also contributing by participating in interruptible rate programs, demand bidding programs and other forms of day-ahead and same-day price and non-price based programs

The redder, the greedier

Electricity consumption per person, KWh, '000

— Republican states* — Democratic states*
— US average — California



*At 2004 presidential election
Source: California Energy Commission

Customer Perspectives

- There is growing customer interest in new rate options
- Primary opportunities for additional demand response (efficiency, load shifting, and dynamic load response) are expected from large commercial & industrial customers and from residential customers
- Interest in new rate options is high and favorable; when rates are mandatory or assigned by default, perceptions of “forced choice” may well limit customer acceptance
- Dynamic prices will also be volatile prices; this issue received great attention at CPUC workshop for large customers held March 7, and in follow-up comments

Emerging Issues & MRTU

- TOU and critical peak pricing options are available for all customer classes now, will be available to all customers as full AMI meter deployment is achieved
- New real-time pricing options will be considered by the CPUC as CAISO MRTU is tested and implemented
- Detailed design decisions for new RTP tariffs cannot be resolved until some period of results from MRTU prices is available (e.g., “one-part” versus “two-part” rates; types and best forms of hedging options; possible need for externally-determined capacity price adders)