Metering and Pricing

Needs, Policies and Conflict Resolution Between Stakeholders

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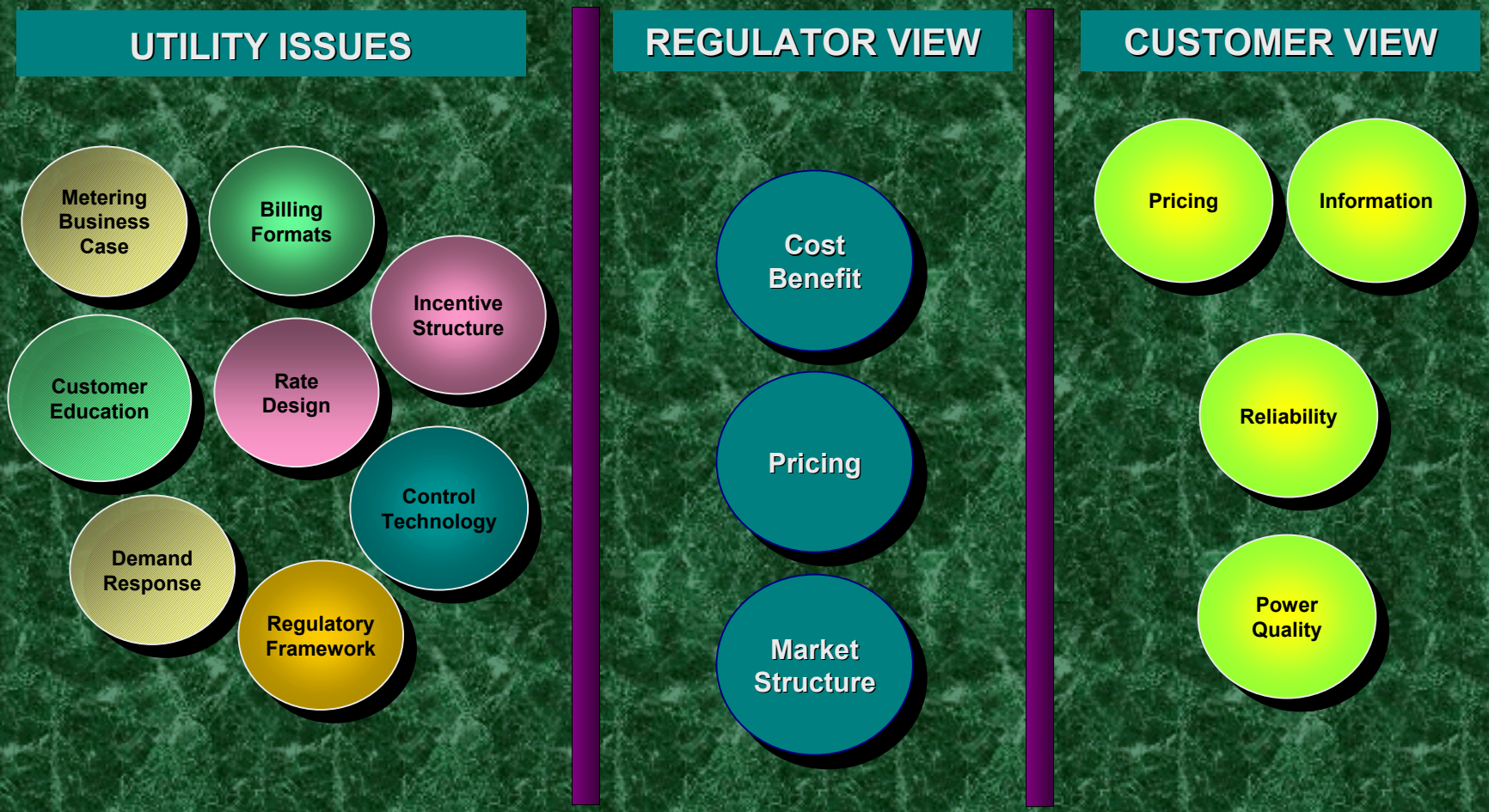
Conclusions

1. Metering and technology are not the problem.
2. Demand Response is nothing more than customer service.
3. Customers service needs are not being met.

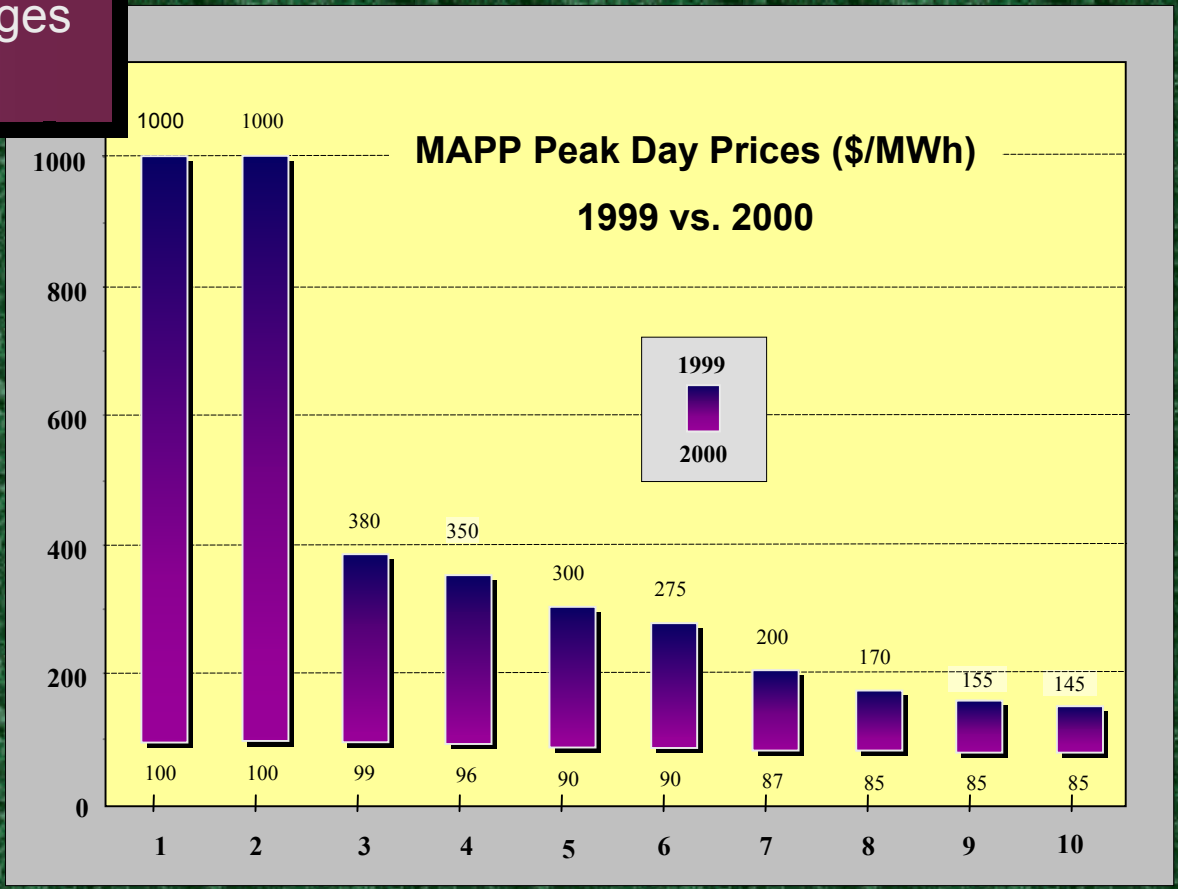
The Utility Environment – Lots of Issues



Utility Environment

System Problems

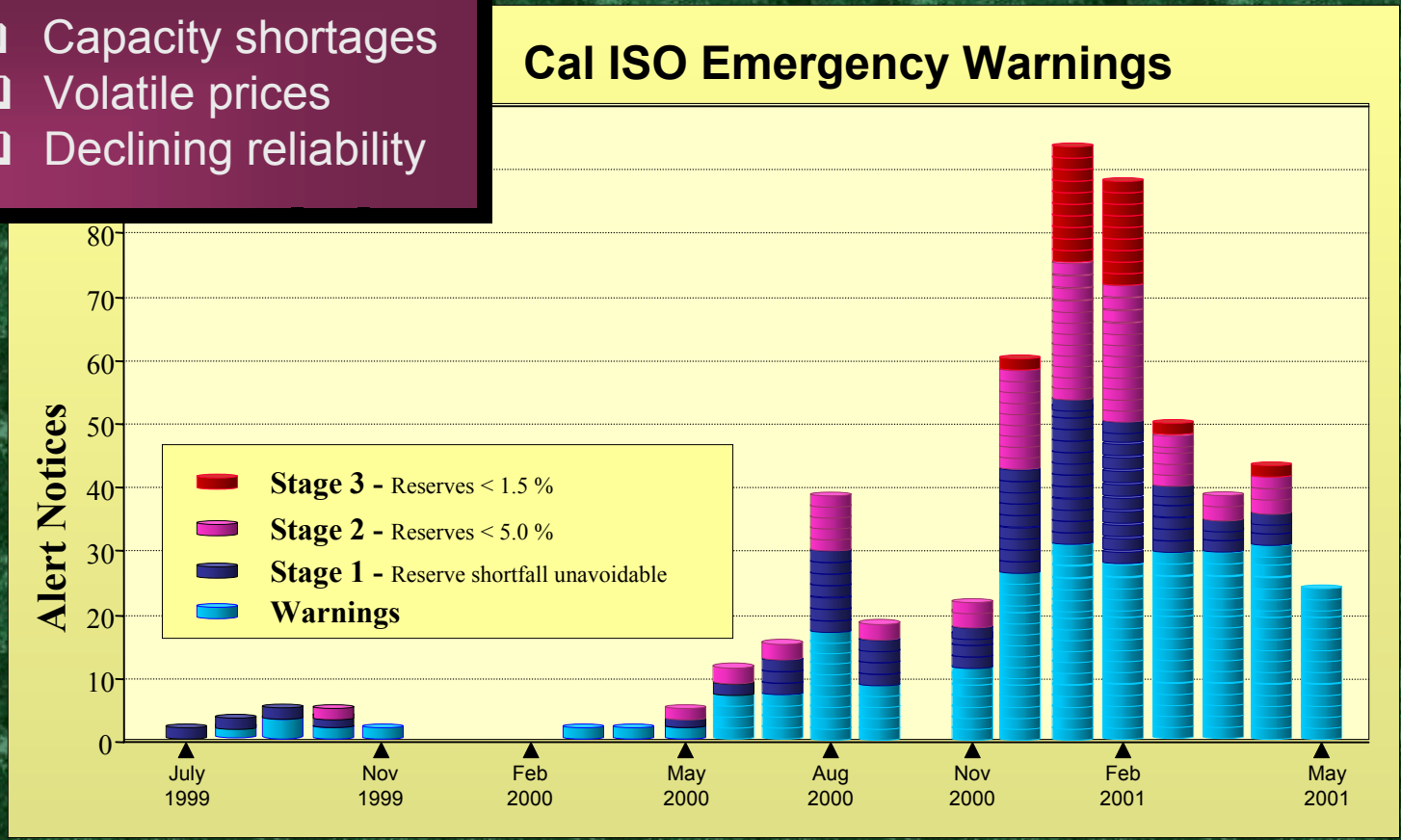
- Capacity shortages
- Volatile prices



Utility Environment

System Problems

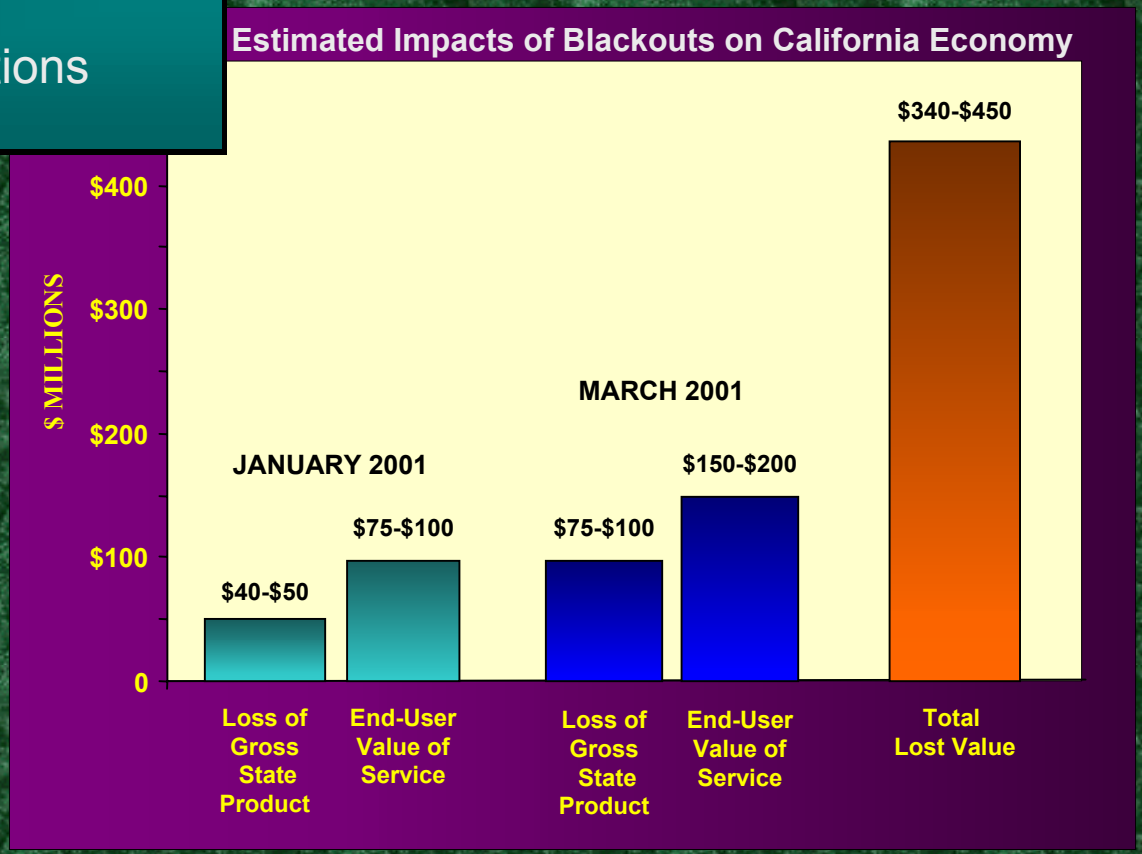
- Capacity shortages
- Volatile prices
- Declining reliability



Customer Environment

Customer Problems

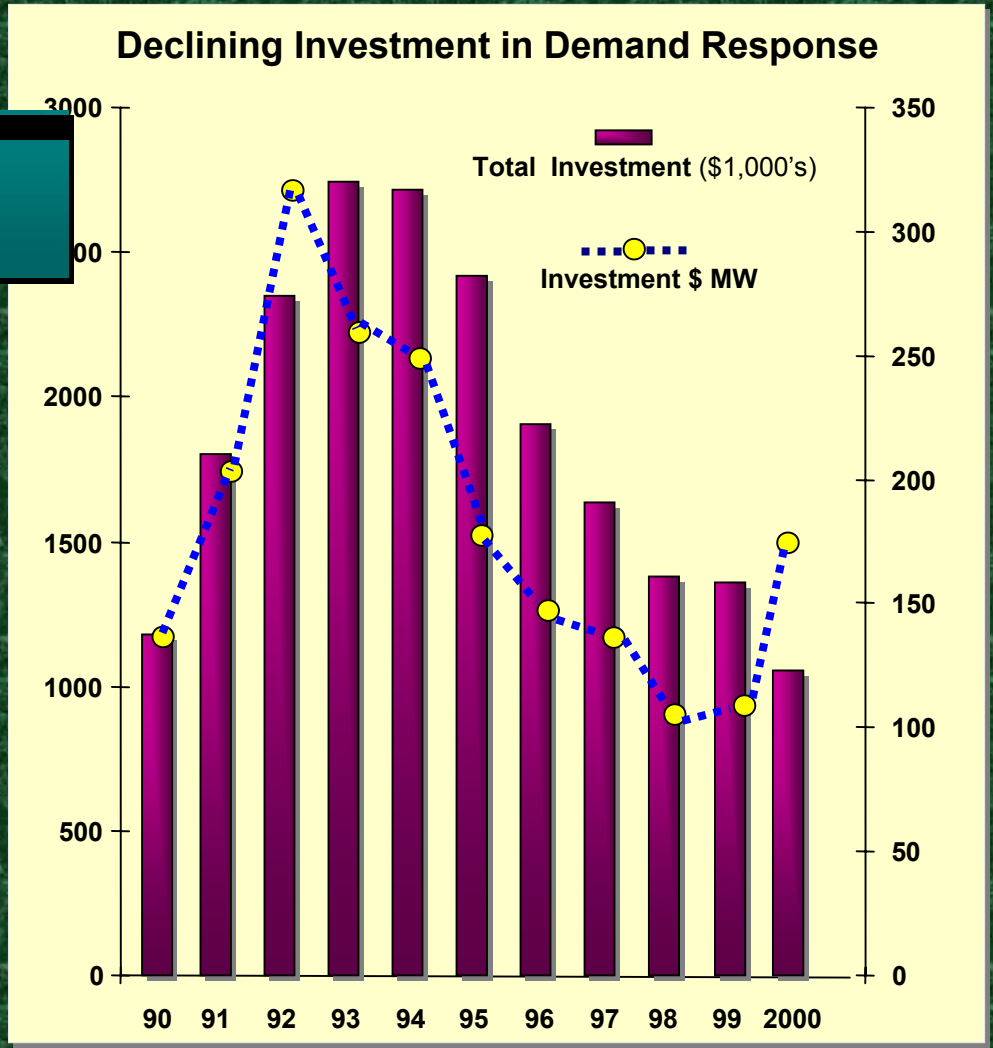
- Business disruptions



Customer Environment

Customer Problems

- Business disruptions
- Lack of viable options

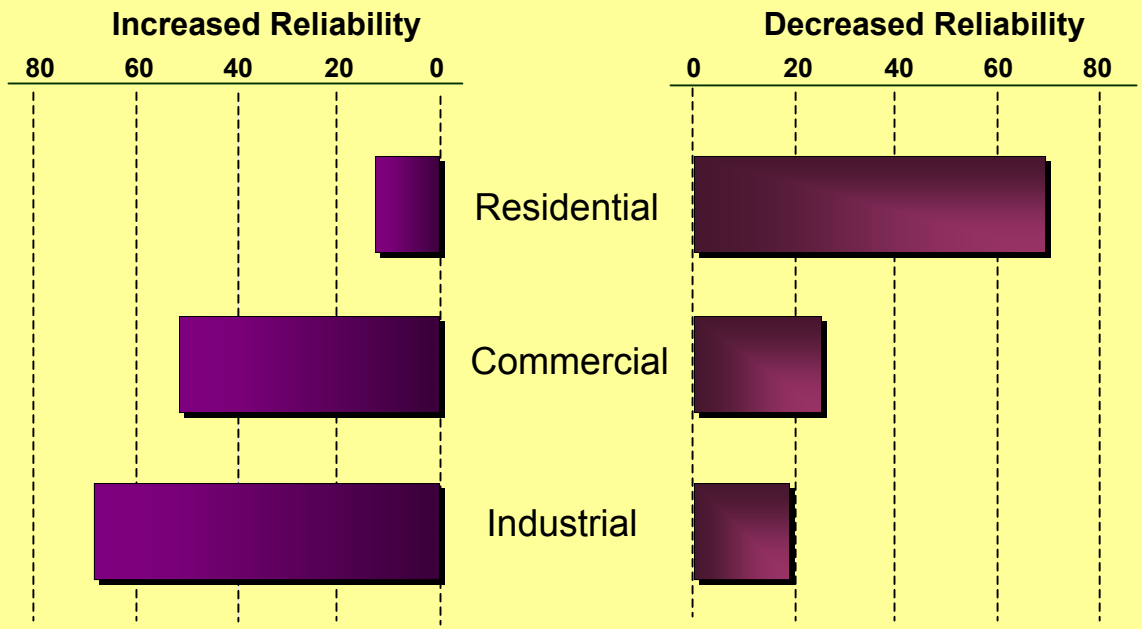


Customer Environment

Customer Problems

- ❑ Business disruptions
- ❑ Lack of viable options
- ❑ Need for reliability

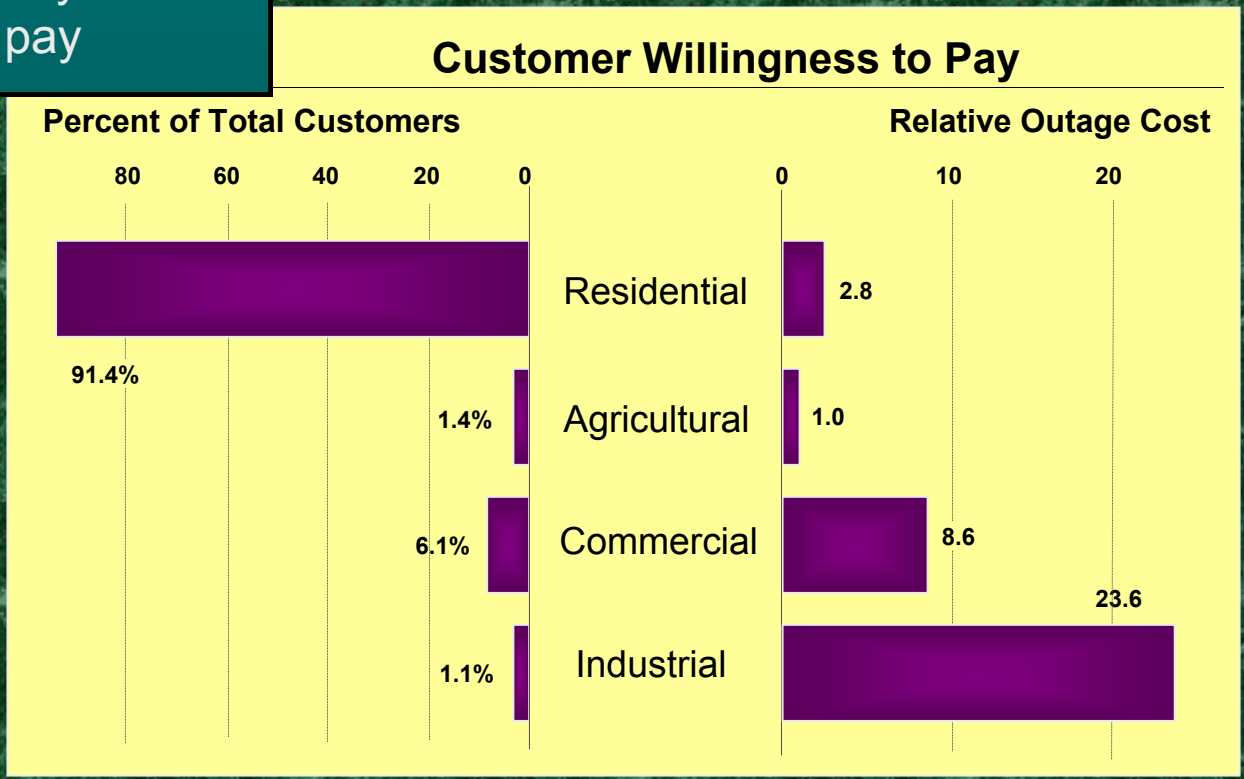
Customer Reliability Preference



Customer Environment

Customer Problems

- ❑ Business disruptions
- ❑ Lack of viable options
- ❑ Need for reliability
- ❑ Willingness to pay



What Have We Learned ?

Demand Response Options	Load Shape Objective	Dispatchable	Market Link	Control	Incentives: Linked To	Incentives: Reflect Market Value
Load Control	Peak Clipping	Yes	Control Signal	Service Provider	Participation	No
Curtailable / Interruptible Tariff	Peak Clipping	Yes	Control Signal	Customer	Firm Service	No
TOU Tariff	Conservation	No	None	Customer	Change kWh	No
Critical Peak Pricing	Flexible	Yes	Price	Customer	Change kWh and kW	Yes
Demand Bidding	Flexible	Yes	Price	Customer	Change kWh and kW	Yes
Real-time Pricing	Flexible	Yes	Price	Customer	Change kWh and kW	Yes

Traditional Options Declining Interest and Effectiveness

Improved Options Restricted Availability

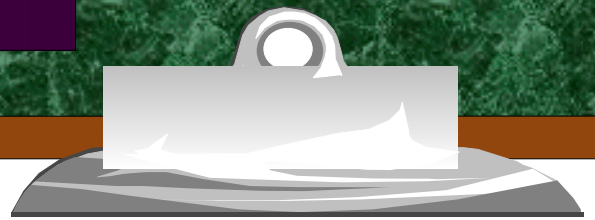
BETTTER PRICING

INFORMATION

Advanced Metering

Issue: Advanced Metering

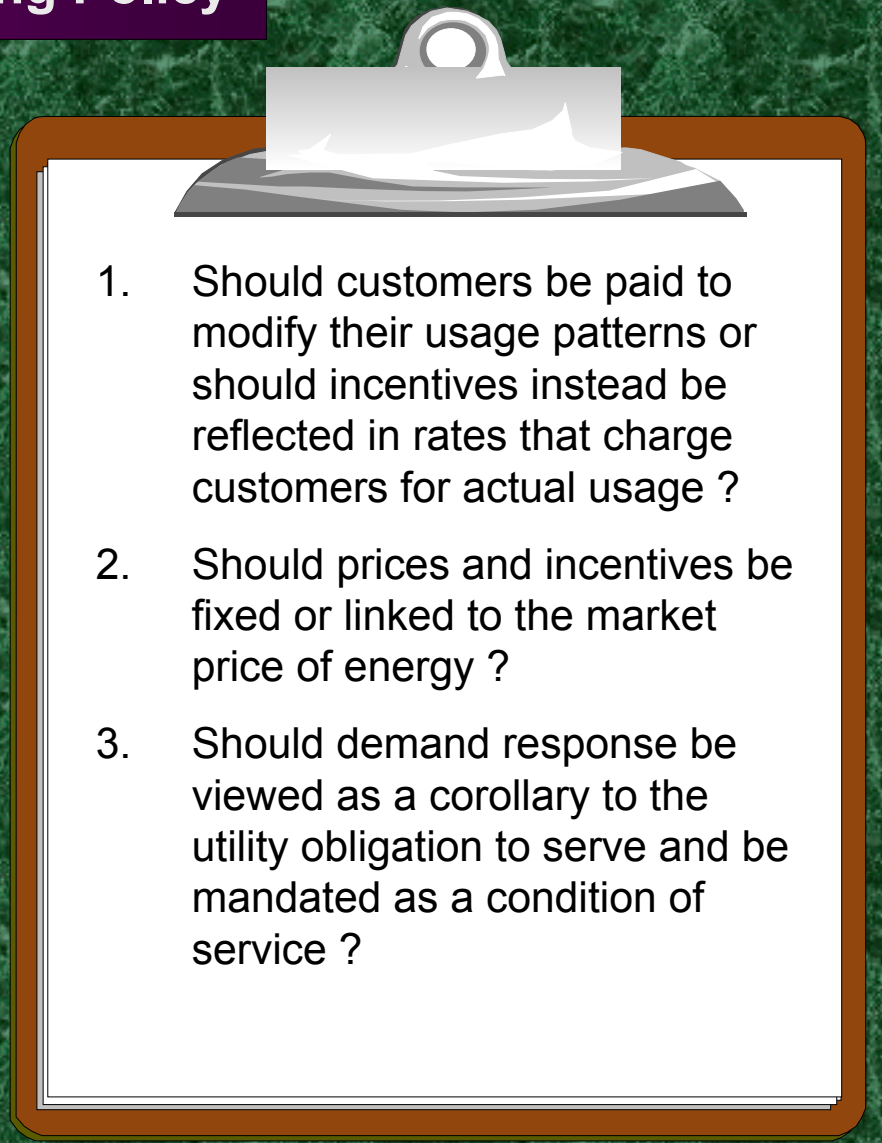
- Advanced metering with communication capability is necessary to support utility and customer needs for improved pricing and information.
- Advanced metering also provides utilities with substantial internal operating benefits that would seem to be a logical part of any business improvement and modernization effort.



1. Are these separate issues ?
2. Which comes first ?
3. How should they be evaluated ?
4. Why should advanced metering be subject to more regulatory scrutiny than CIS or any other back-office improvement?
5. Can utilities meet their obligation to serve without the capability to provide better pricing and information?

Issue: DR Programs vs. Pricing Policy

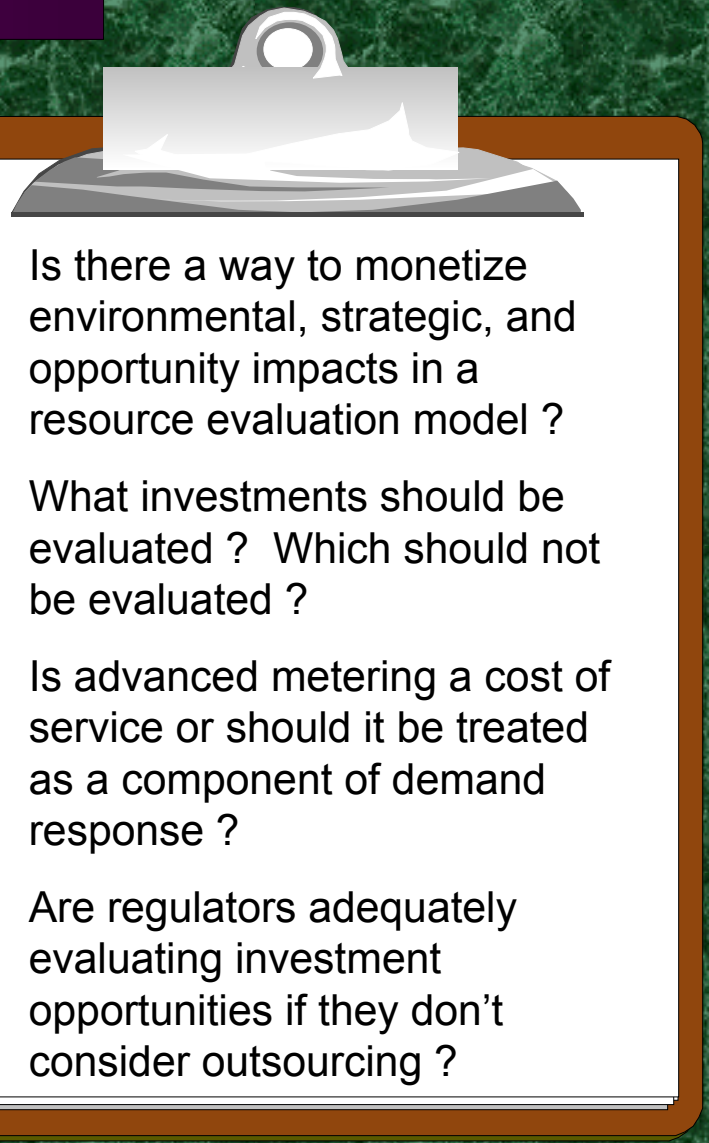
- Demand response (DR) can provide utilities with substantial operating savings and flexibility.
- DR programs that provide fixed incentives create equity and fixed-cost issues.
- Programs targeted to specific end-uses limit the DR market and constrain flexibility.
- Separating DR and efficiency measures creates mixed market signals.



1. Should customers be paid to modify their usage patterns or should incentives instead be reflected in rates that charge customers for actual usage ?
2. Should prices and incentives be fixed or linked to the market price of energy ?
3. Should demand response be viewed as a corollary to the utility obligation to serve and be mandated as a condition of service ?

Issue: Cost Effectiveness

- Utilities and regulators need a way to determine the appropriateness of certain investments.
- The Standard Practice ignores the customer perspective because it assigns no value to improved service levels.
- The Standard Practice was designed to address narrow DR initiatives, not pricing policy.
- The Standard Practice uses static measures unrelated to market prices or dynamic rates.
- The Standard Practice ignores risk.



1. Is there a way to monetize environmental, strategic, and opportunity impacts in a resource evaluation model ?
2. What investments should be evaluated ? Which should not be evaluated ?
3. Is advanced metering a cost of service or should it be treated as a component of demand response ?
4. Are regulators adequately evaluating investment opportunities if they don't consider outsourcing ?

Issue: Other Beacons…for another time.