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The Brattle Group

Integrating Dynamic Pricing with Inclining Block Rates

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Intelligent rate design promotes more efficient electricity consumption

Dynamic pricing

- Revolutionizing today's electricity rates
- Pricing pilots are being conducted around the country
- Costs of enabling technologies are rapidly falling
- States are adopting policies to promote the new rates

Inclining block rates

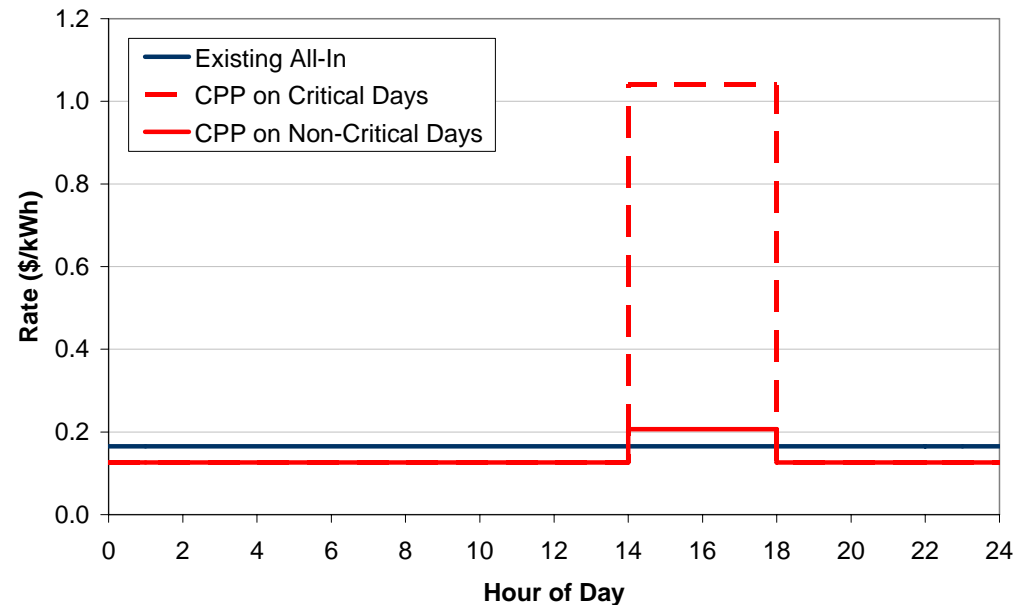
- Do not require new technology
- Focus on conservation
- Complement dynamic rates

What is dynamic pricing?

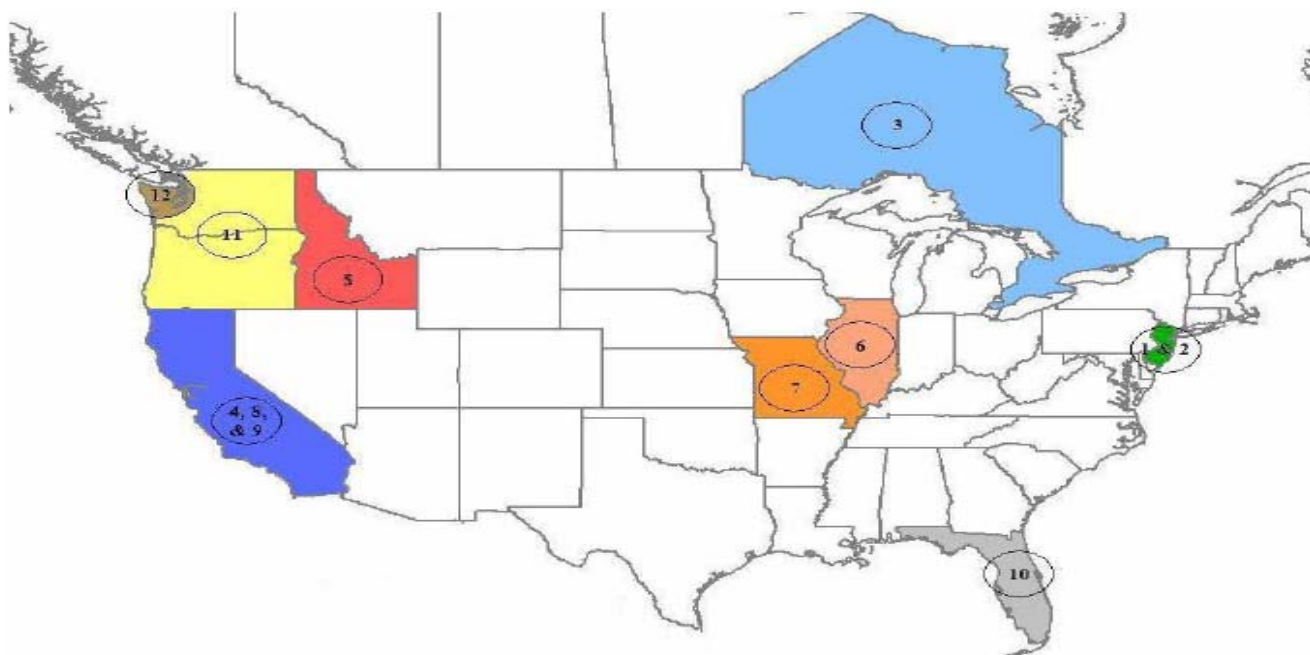
Dynamic pricing refers to the family of rates that:

- Vary by time of day
- Are “dispatchable”
- Focus on reducing peak demand
- More accurately convey the true cost of providing electricity

Illustration of Residential CPP Rate



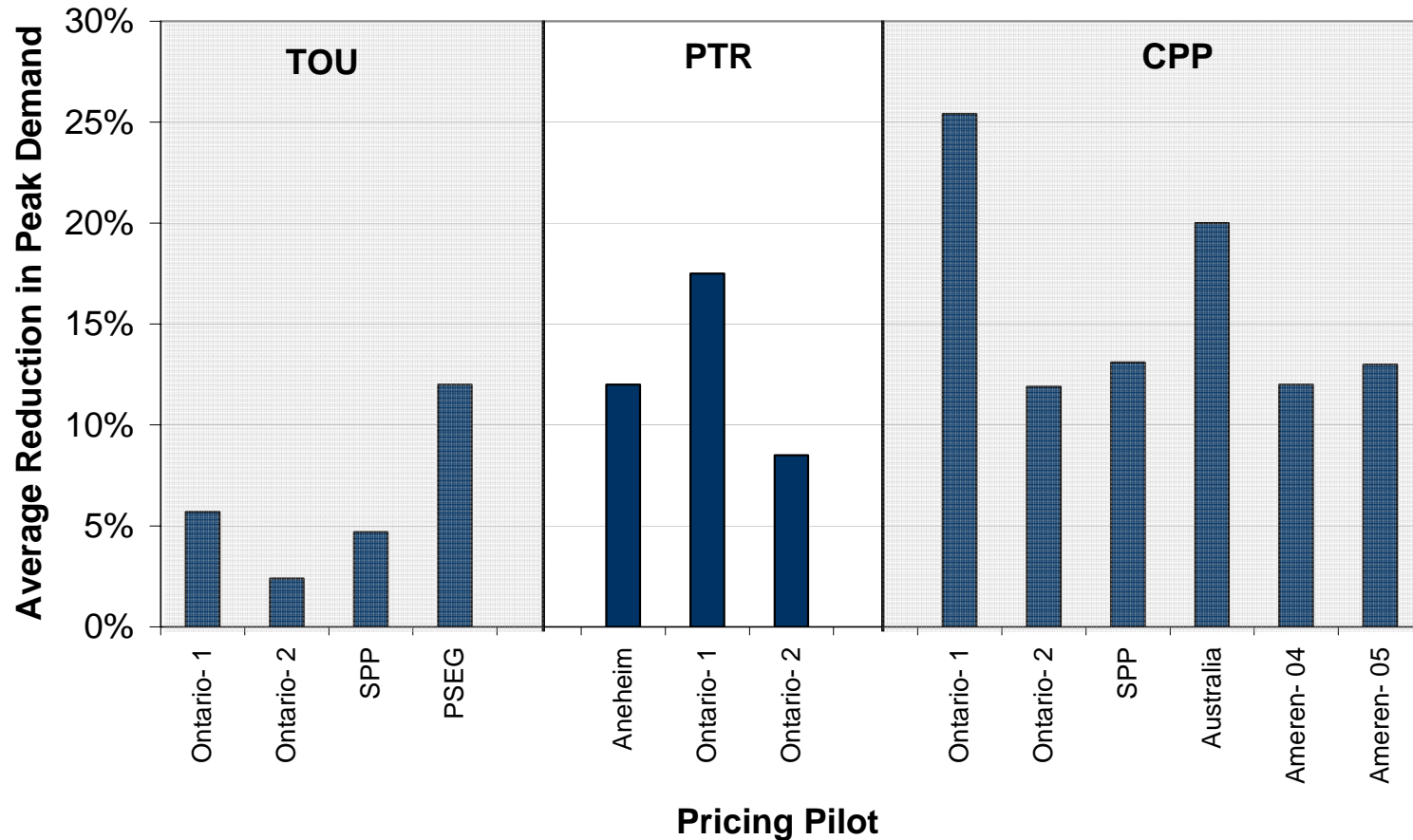
Several new dynamic pricing experiments have been conducted across North America since 2000



- | | |
|---|-----------------------------------|
| 1- PSE&G Pilot Program | 7- AmerenUE Residential TOU Pilot |
| 2- GPU Pilot Program | 8- ADRS Pilot |
| 3- Ontario Energy Board Smart Price Pilot | 9- Statewide Pricing Pilot |
| 4- Anaheim Critical Peak Pricing Experiment | 10- The Gulf Power Select Program |
| 5- Idaho Residential Pilot Program | 11- Olympic Peninsula Project |
| 6- Energy-Smart Pricing Plan | 12- PSE TOU Program |

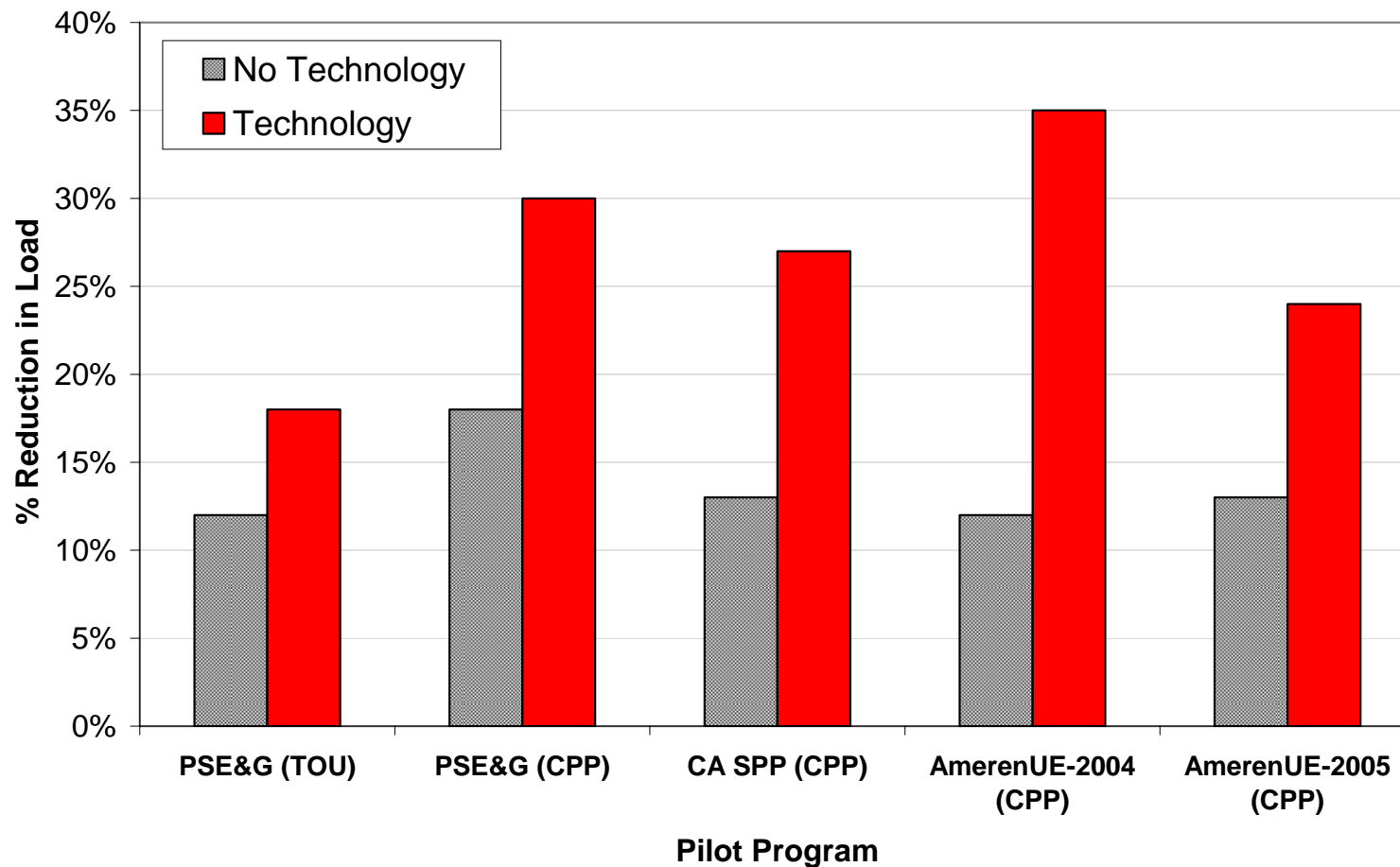
The pilots have shown that customers do respond to dynamic pricing

Non-Technology Enabled Impacts of Pricing Pilots



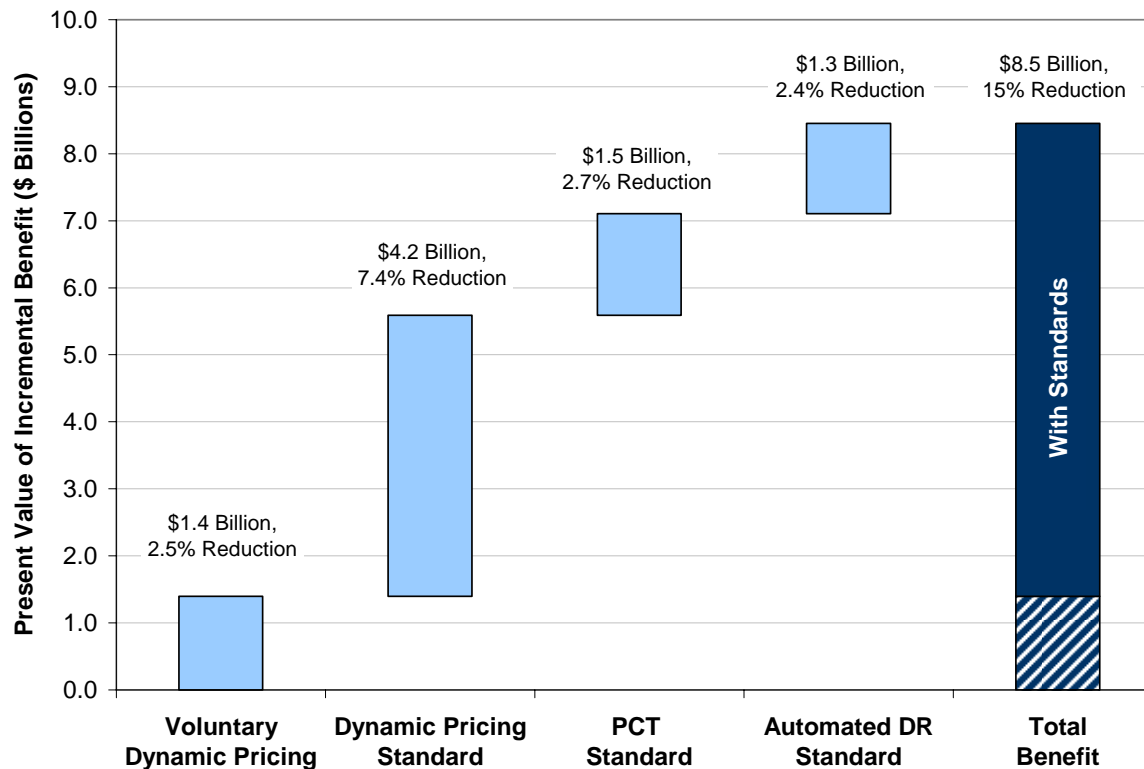
Enabling technologies facilitate even greater demand response

Role of Technology on Pilot Program Impacts



The potential benefits of dynamic pricing and demand response are significant

The Potential Impact of Load Management Standards in California



These benefits are driven primarily by avoided investment in new generating capacity through peak demand reductions

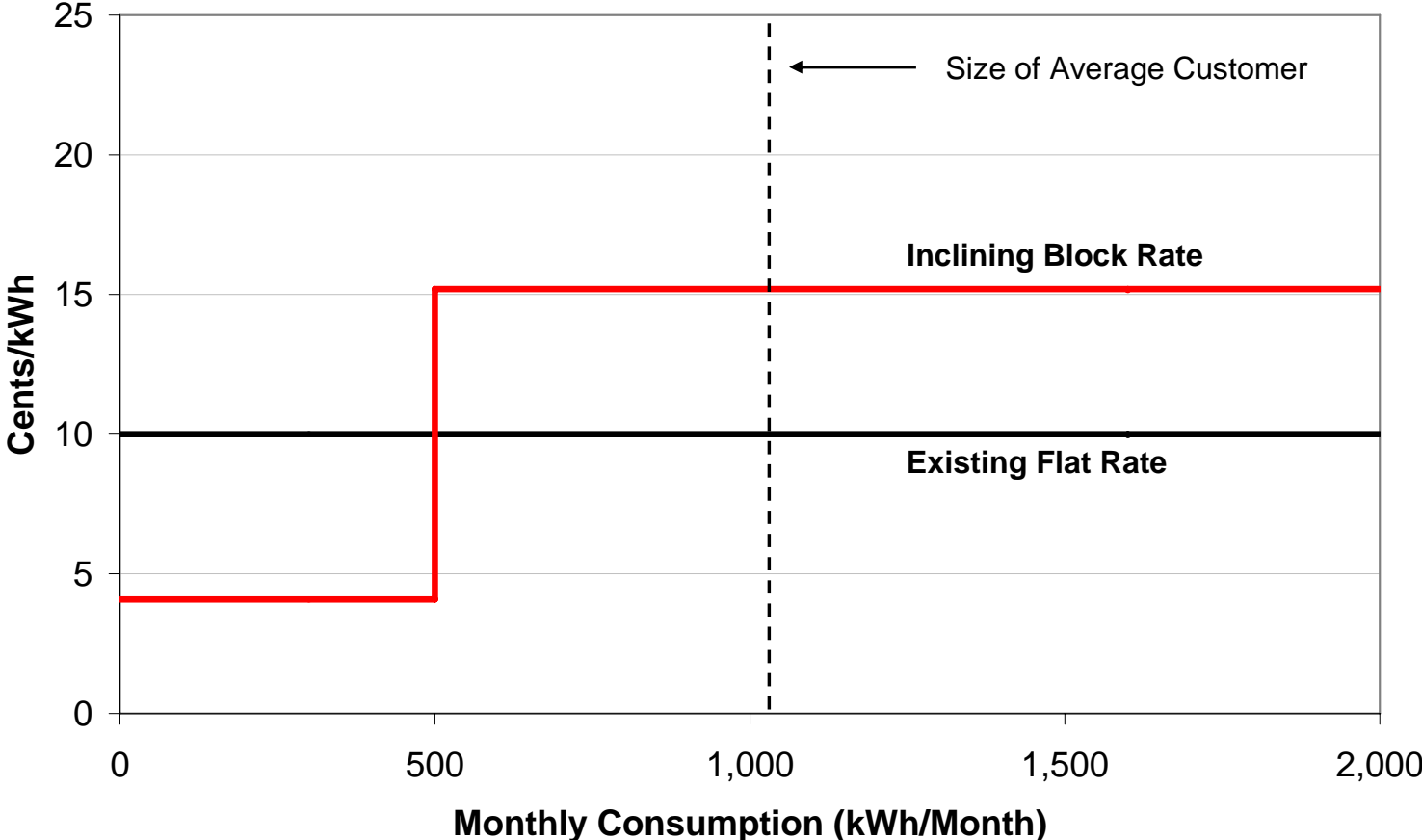
The conservation impacts of dynamic pricing are unclear

- Some pricing pilots have suggested moderate conservation impacts
- The California Statewide Pricing Pilot did not find a significant conservation effect
- Long-run conservation effects have not yet been tested

If conservation is the dominant policy objective, inclining block rates are an attractive complementary option...

Dynamic pricing could be complemented by inclining block rates

Illustration of Inclining Block Rate

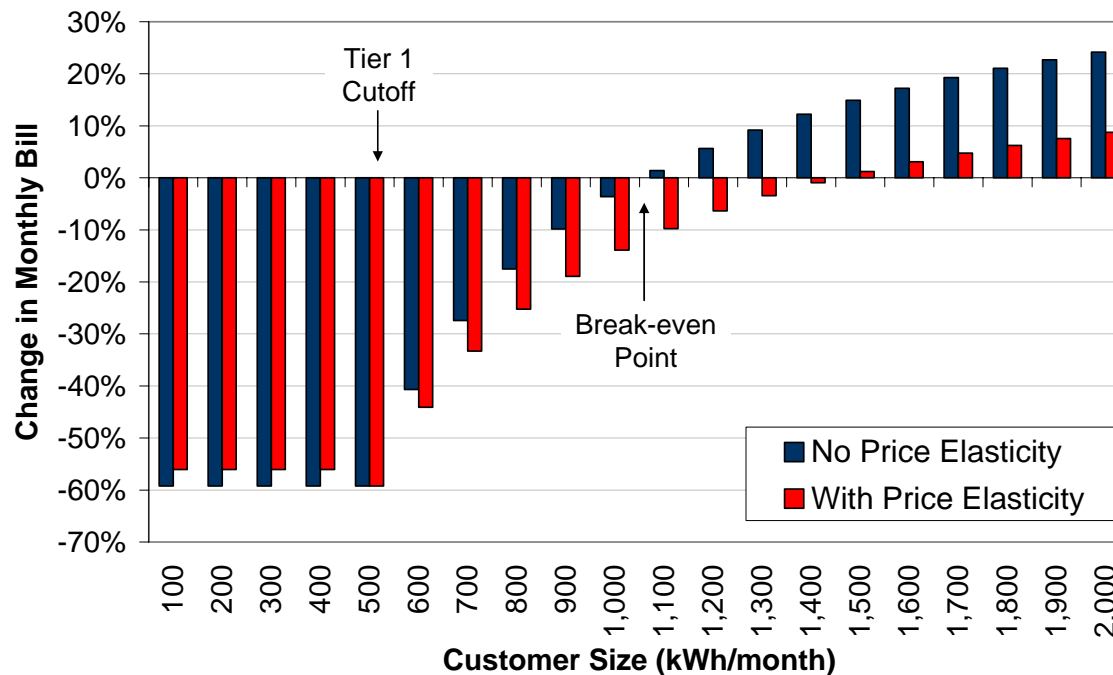


Energy use and customer bills could decrease significantly in response to inclining block rates

Average short run impacts suggested by our simulations:

- Consumption reduction ranges from 1% to 6%
- Bill savings range from 1% to 9%

Simulated Distribution of Bill Impacts



The way forward is to offer customers a menu of rate options

