

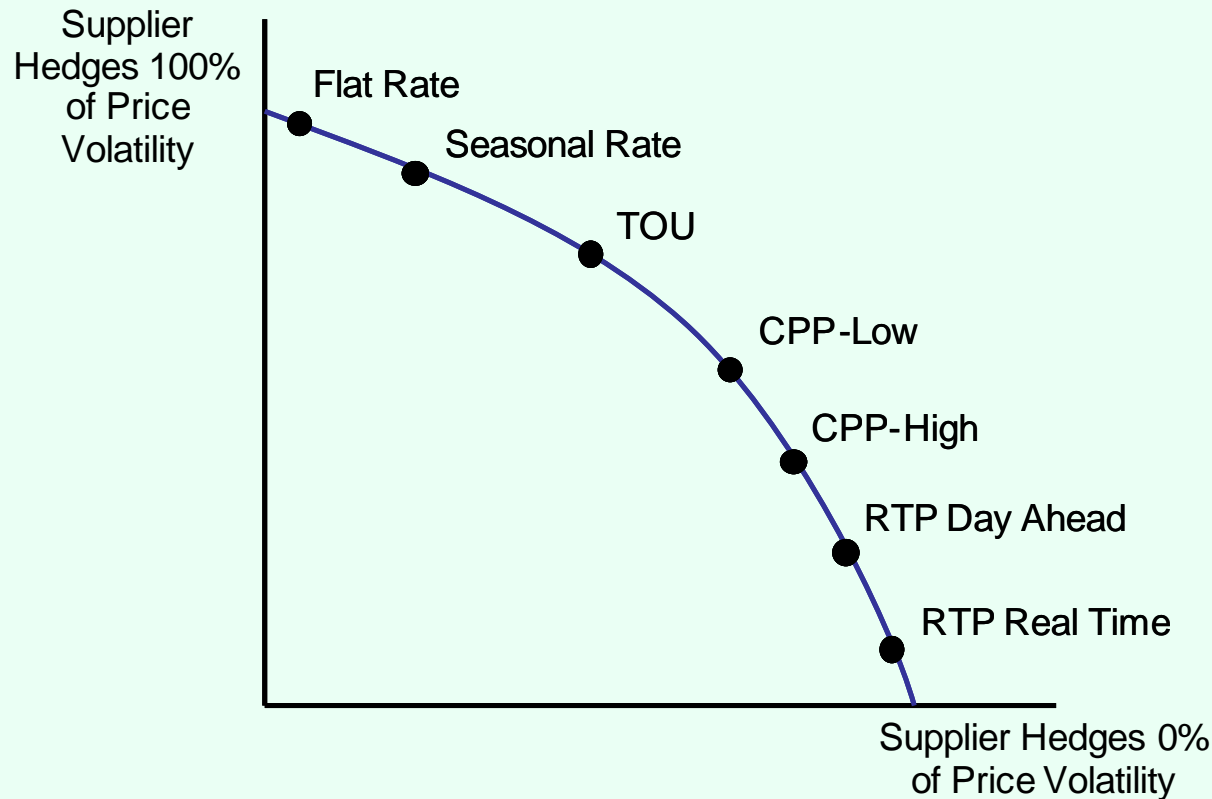
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Customer Response to Demand Side Technologies

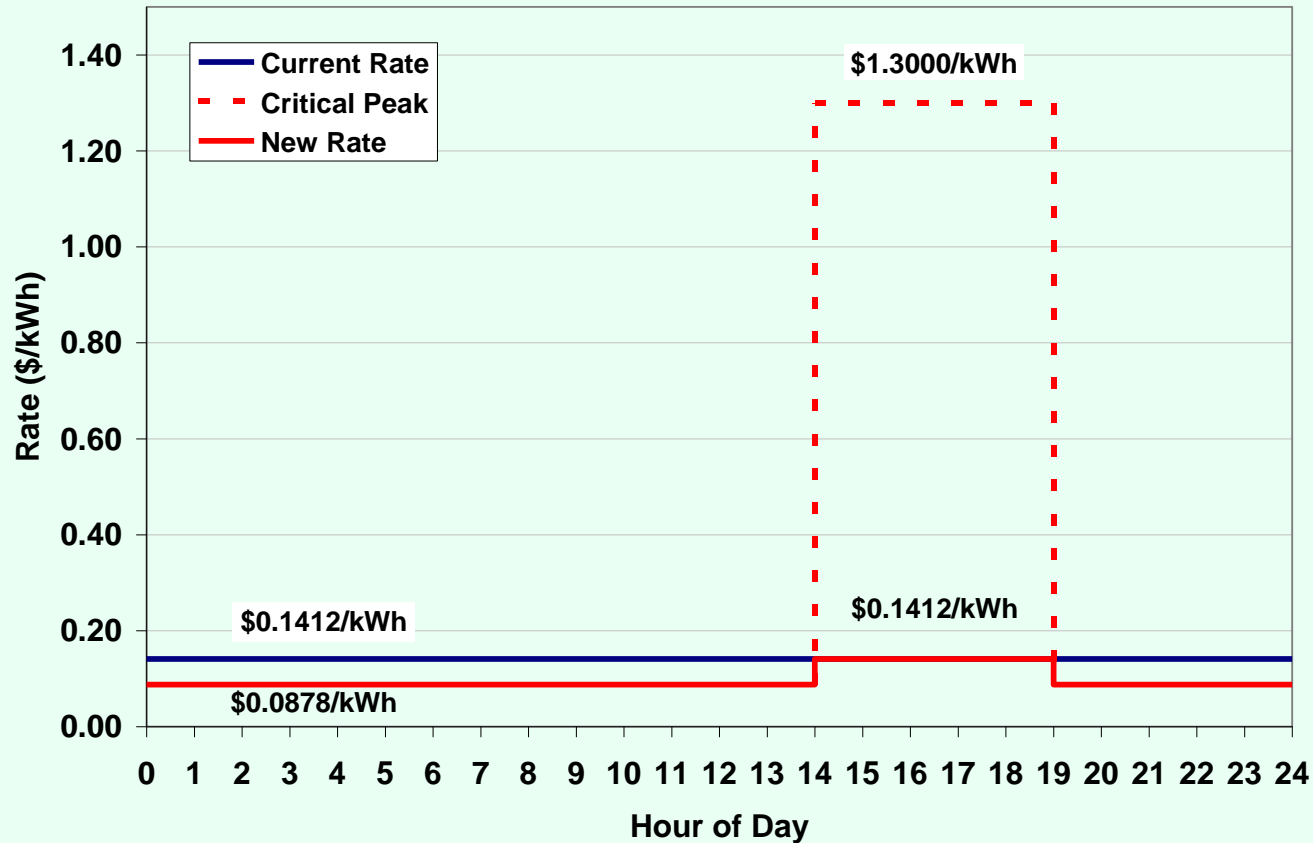
Lisa V. Wood
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Gridweek
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“Smart” rates transfer price risk/volatility from energy provider to energy consumer

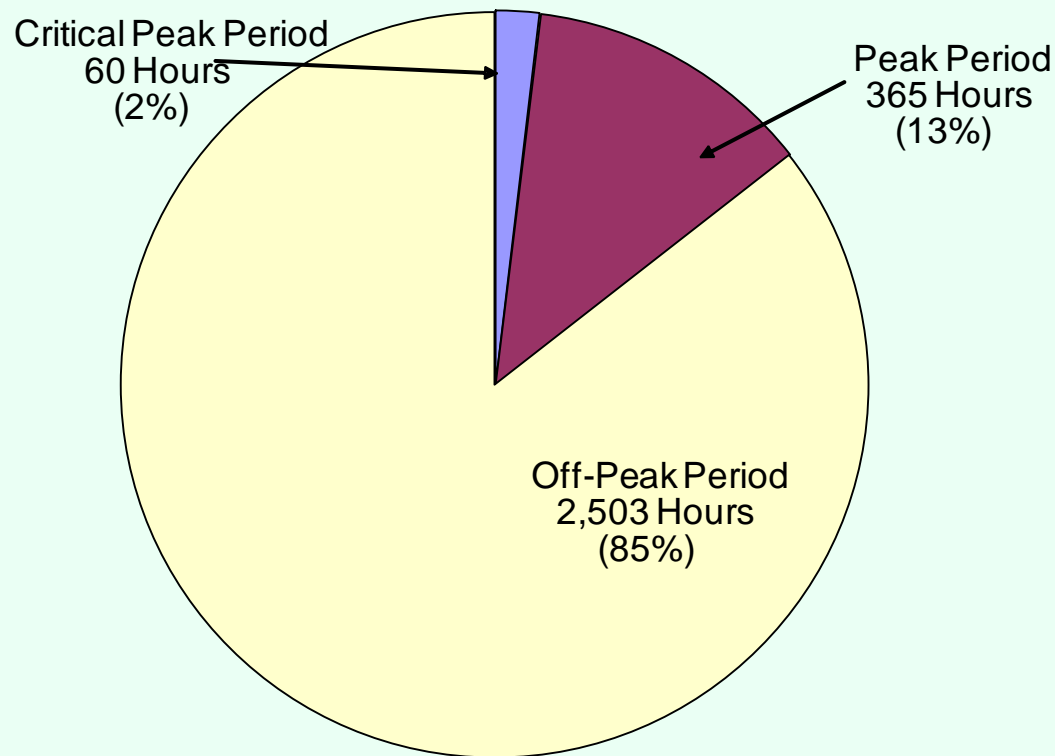


Example of a “smart” or dynamic rate – critical peak pricing (CPP)



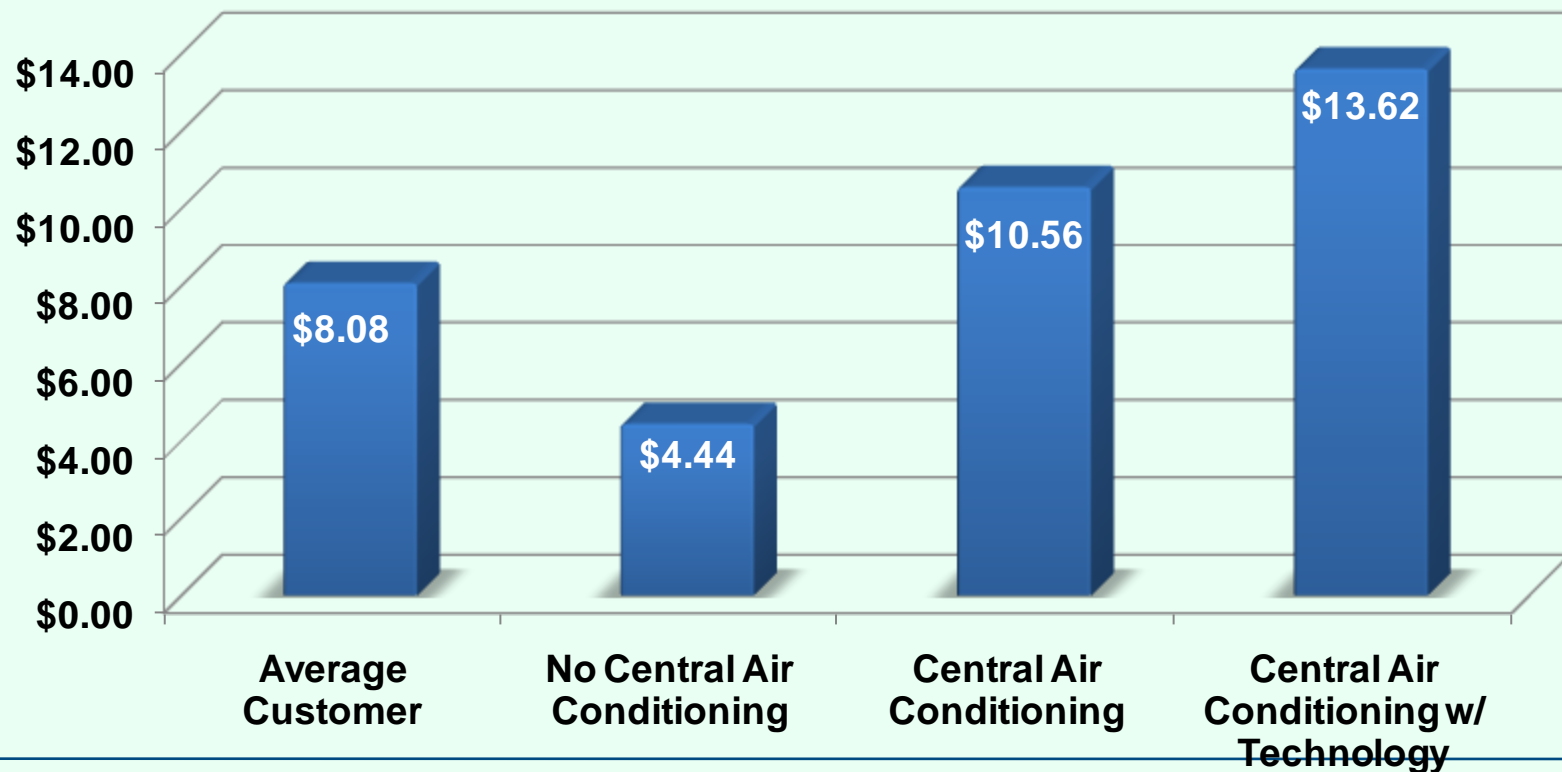
Off-peak price in effect 85% of the summer hours; critical peak price in effect for only 2% of hours!

Distribution of Critical Peak, Peak and Off-Peak Hours
June - September



Enabling technology – AC switch or smart thermostat – increases total bill savings by about 30% (example)

Average Monthly Bill Savings

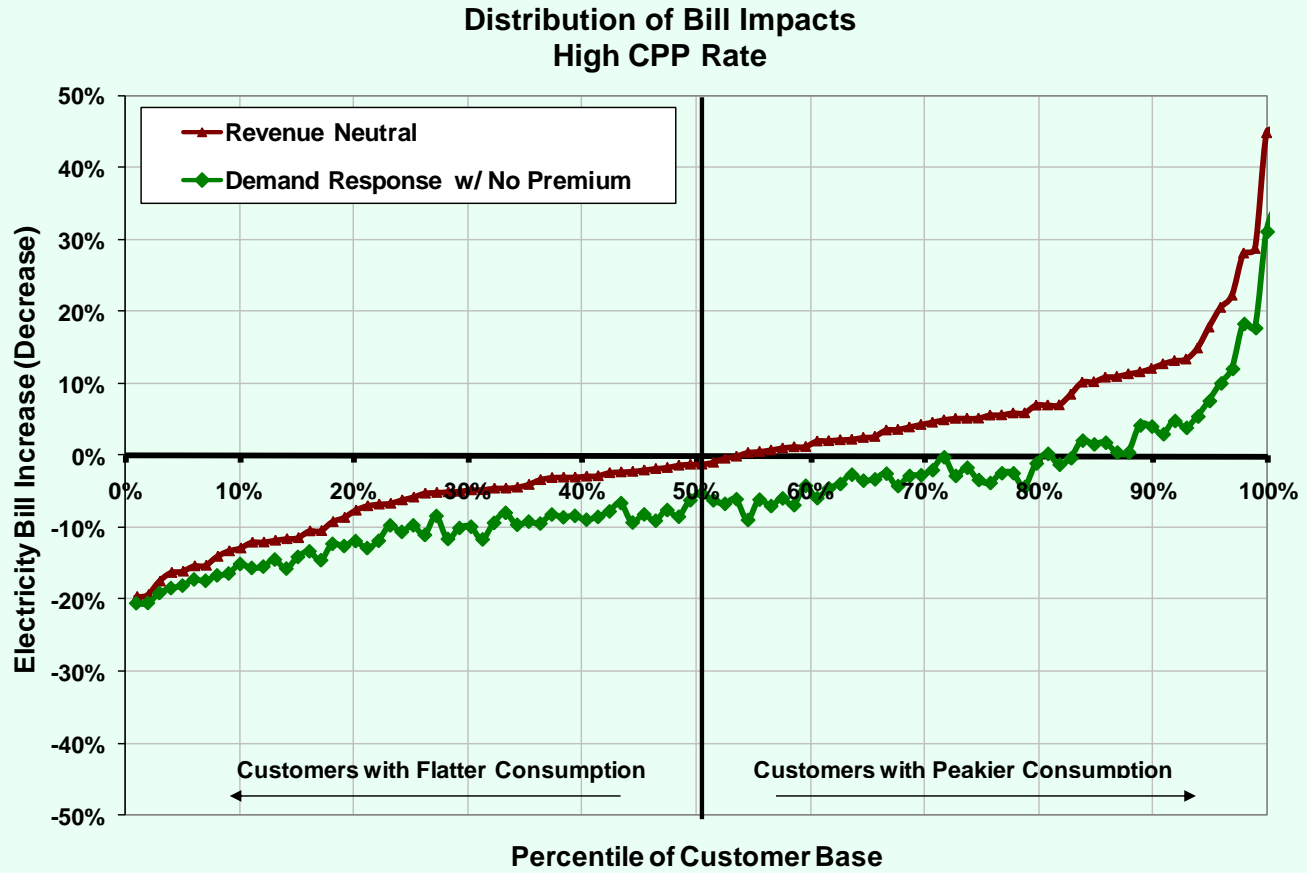


Why? Enabling technology increases customer responsiveness; easy to react to price signal – recent pilot results

- BGE's smart pricing pilot program (summer 2008) – customers with technology shift usage (from peak to off peak) by about 30% more than those without technology (preliminary results).
 - Tested both critical peak pricing and peak time rebates.
- PSE&G's myPower pricing pilot program (2006-2007) – customers with technology (programmable thermostat) shift usage twice as much from peak to off peak.
 - for central AC customers, substitution elasticity of -0.125 with technology vs. -0.069 without technology.



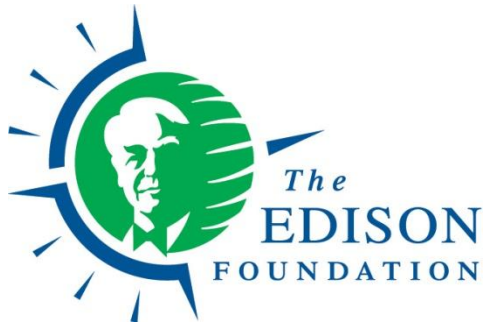
Bill impact distribution shifts as customers respond; enabling technology helps customers respond & save!



Plug in hybrid vehicles may be the “killer application” for smart meters/smart rates!

- Plug in hybrids make sense under time varying rates (not flat rates)
 - Charge during low-priced “off-peak” hours during nights/weekends
 - Sell power into grid at high-priced “peak” hours during weekdays
- Smart rates/smart meters/smart response -- building blocks to smart grid.





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