

Dumb Policies and Smart Grids

A Consumer Perspective

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Maryland Office of People's Counsel

“the voice of Maryland residential utility customers”

- Independent state agency
- People's Counsel appointed by the Maryland Attorney General – 5 year term
- Regulated utilities
 - Electricity
 - Gas
 - Telecommunications
 - Private water services
- 19 person agency:
 - Professionals: 10 attorneys
 - Consultants: expert testimony and technical assistance

What's the Problem for Consumers?

"It's the Meter not the Grid"

- Fred Butler* said it best: "Don't put the cart before the horse"
- Consumer groups have supported the building of a "smarter GRID" – that is looking to introduce efficiencies into the transmission and distribution infrastructure
 - "So what's going on with the GRID efficiencies?"
- Focus of consumer concerns is on the smart METER (AMI) proposals and pricing schemes

*Former Commissioner, New Jersey Board of Public Utilities

Consumer Concerns

- Smart meter programs
 - Business Case
 - Objectives should be identified
 - Programs should be cost-effective
 - Alternatives to reach stated goals should be considered
 - The risks of deployment must be shared
 - Financial
 - Technological
 - Time-of-use and dynamic pricing schemes must be voluntary
 - “Opt-in” not “opt-out”
 - Consumer protections must be maintained for customers
 - Consumer education
 - Accountability

BGE Smart Grid Initiative: A Case Study

(Initial Proposal)

- **ELEMENTS:**
 - Full deployment of smart meters and modules (3-5 years)
 - 1.36M electric meters
 - 730,000 gas meters
 - Installation of communications networks and supporting IT
 - Utility to meter
 - Meter to residence
 - Web portal
 - Mandatory Residential Smart Energy Program (PTR and 2-tier TOU)
 - Surcharge mechanism for cost-recovery
 - Capital and operating expenses
 - Return on net investment
 - Incentives tied to anticipated wholesale revenue and price mitigation
- The SG Initiative did not include:
 - Upgrades to T&D system
 - In-home displays or other “enabling technologies
 - ZigBee-equipped appliances

BGE Smart Grid Initiative: A Case Study

(Initial Proposal)

- COSTS
- Estimated cost: \$835 million
 - Installation and deployment of electric and gas meters
 - Meters: electric and gas
 - Communication systems
 - Data management systems
 - Operational expenses over life of program
 - Education
- Costs not included:
 - Early retirement of existing meters
 - New Billing system
 - Comprehensive education
 - Energy management systems
 - In-home displays
 - New appliances

BGE Smart Grid Initiative: A Case Study

(Initial Proposal)

- Savings Benefits
 - Operational savings and avoided capital costs (20% of benefits)
 - Meter reading
 - 95% reduction in manual meter reads
 - Elimination of most meter reading personnel
 - Meter operations
 - Reduction in field operation calls and collections visits
 - Avoided costs of maintaining current meters
 - Distribution management costs
 - More efficient response to outages
 - More efficient capital planning (better knowledge of load)

BGE Smart Grid Initiative: A Case Study

(Initial Proposal)

- Projected Supply-side benefits (80% of projected benefits)
 - Capacity revenue
 - Monetize the value of reduced peak load in the PJM-administered RPM auctions
 - Energy revenue
 - Monetize the value of the projected reduction in energy use in the day-ahead or real-time energy markets
 - Capacity and energy price mitigation
 - Reduced capacity and energy prices as a result of increased energy resources
 - Reduction in overall energy consumption (1%) through dynamic pricing and use of web portal
 - Reduction in T&D infrastructure costs due to reduction in peak load

BGE Smart Grid Initiative: A Case Study

(Initial Proposal)

- Supply-Side Benefits - Key Assumptions
 - Consumer Behavior
 - Shift in energy use during critical peak periods
 - % of customers who shift usage
 - Amount of usage shifted from peak periods
 - Reduction in overall consumption by 1%
 - R-SEP
 - Web portal: customer access to data
 - Future Capacity Prices in Wholesale Markets

OPC's Position on BGE's Initial Smart Meter Proposal

"Not in the Interest of Residential Customers"

- Business case not sufficient
 - Estimated costs are significant
 - Operational savings are not sufficient to offset costs
 - Additional supply-side benefits are uncertain and contingent upon persistent changes in customer behavior and future capacity prices
 - DOE grant (\$136M for meters) is not a sufficient offset or reason for approval
- Surcharge mechanism guarantees cost-recovery
- Customers bear financial and technology risk
- Mandatory time-of-use pricing imposes a "one size fits all" scheme on residential customers
- Remote disconnection has potential for increasing service disconnections
- Approval is premature while privacy, inter-operability and cybersecurity standards are being developed

Initial MD PSC Order rejecting BGE Smart Grid Proposal

- *“The Proposal asks BGE’s ratepayers to take significant financial and technological risks and adapt to categorical changes in rate design, all in exchange for savings that are largely indirect, highly contingent and a long way off. We are not persuaded that this bargain is cost-effective or serves the public interest, at least in its current form.”*
- *“The Proposal is a ‘no-lose proposition’ for the Company and its investors.”*
 - *MD PSC Order No. 83410 (June 21, 2010)(pp. 1,3)*

Initial MD PSC Order rejecting 1st BGE Smart Grid Proposal

- Rejected elements of BGE proposals:
 - Tracker for cost recovery
 - Mandatory TOU pricing
 - Lack of risk-sharing – costs and technology
- Requirements for new proposal:
 - Mechanism to share risk between consumers and shareholders (no tracker)
 - Business case with no mandatory TOU
 - Detailed consumer education plan

2nd MD PSC Order accepting

BGE Smart Grid Proposal as modified by Commission

- Meter deployment approved with conditions:
 - Cost recovery
 - No tracker
 - Authorized a regulatory asset
 - Future rate case: cost recovery dependent upon delivery of a cost-effective meter program
 - Time of Use Rates
 - Acceptance of BGE withdrawal of mandatory TOU rates
 - Comprehensive Consumer Education
 - Risk Mitigation and Allocation

The BGE Decision – A Model

- Federal policies can support SG objectives and investment in SG technologies
 - Guidance
 - Standards
 - Information-sharing
 - Funding
- **HOWEVER:** State utility commissions must evaluate utility smart meter proposals and costs and determine whether they are reasonable, in the public interest and address the concerns and interests of consumers
- BGE Case is a model
 - Evidentiary proceeding
 - Order – Issue identification and resolution

The Business Case

- What are the objectives of a smart grid (meter) initiative?
 - Peak usage reduction
 - Greater reliability
 - More efficient operation
 - Carbon reduction
 - affordability
 - Accommodation of renewable energy sources and plug-in vehicles
 - Creation of framework to incorporate technological advances
- Is the proposal a cost-effective way to meet objectives?
- Are there less costly alternatives to meet same objectives?

Risk Allocation (aka Cost Recovery)

- Customers should not bear all of the risks
 - Financial
 - Technology
- Costs of smart meter programs should be addressed in the traditional rate-setting process
- Trackers and surcharges guarantee cost recovery and shift all the risk to customers
- The Illinois Court decision on ComEd's smart meter rider follows the MD PSC rationale in the BGE Case

Price schemes

- “One size does not fit all”
- Time-of-use and dynamic pricing schemes should be voluntary
- Top-down approach is wrong way to go
- Flexibility is important
- Not just a “poor and elderly” concern
- Residential customer profiles: Wants and needs are different

Consumer education

- Consumer education and communication

- Timing

- Before, during and after deployment

- Metrics

- Performance measured against specific metrics

- Adequate funding

- Stakeholder Participation

- *“. . .the success of this Initiative, and the likelihood that customers will actually see the benefits this project promises, depend centrally on the success of the Company’s customer education and communication effort.”*

- *(MD PSC 2nd Order, p. 43)*

Accountability

- No Guaranteed Cost Recovery
- Performance Metrics
 - Education and Communication
 - Operational and Supply-side Benefits
 - Peak Rewards vs. AMI benefits
 - Gas and electric customers
 - Customer classes
 - Installation, performance and budgetary metrics

Maintenance of Consumer Protections

- New technologies should not result in a reduction in consumer protections
 - Remote disconnections
 - Billing and dispute rules
 - Privacy
 - Ownership of data
 - Cybersecurity concerns

Resources on Consumer Concerns

- [“The Need for Essential Consumer Protections: Smart Metering Proposals and the Move to Time-Based Pricing”](http://www.nasuca.org/archive/White%20Paper-Final.pdf), a report by AARP, NCLC, NASUCA, Consumers Union and Public Citizen (August 2010), <http://www.nasuca.org/archive/White%20Paper-Final.pdf>
- www.nasuca.org
 - [Links to NASUCA Smart Grid and Smart Meter Resolutions](#)
- www.psc.state.md.us
 - Link to Case 9208 (BGE)
 - OPC expert witness testimony: Richard Hornby, Nancy Brockway and David Effron
 - PSC Order Nos. 83410 and 83531

OPC

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