Policy Aspects of Time-Variant Pricing (TVP) of Electricity

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The Future of TVP in New York
On the REV Agenda:
The Role of Time-Variant Pricing

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The basis for TVP

- **Primary justification for TVP: Avoiding critical peak investments in generation and transmission**
  - **Top 15% of capacity in MD used < .5% of annual hours**
- **Not a huge effect on total energy use**
  - **Recall maybe 1%, if that**
  - **Less if use redistributed (washers, dryers)**
- **Environmental effects small, may be negative**
  - **Baseload could pollute more than peak**
- **One possible advantage: Match use to renewable intermittency?**
  - **Monitor "always on" appliances to match variation in wind, cloud cover**

Is there a market failure?

- **Installing TVP: "Buy at $400, sell at $50 …" suggest not**
- **Reduced blackout externality from reducing CPP use**
- **Implementing a baseline if using credits for reduced use**
- **Prices on peak too low because of regulation, socialized cost of capacity markets?**
- **Environmental not all that clear for reasons mentioned above**
- **Asymmetric information, that is, would people believe saving claims?**

Should customers be kept from buying non-TVP?

- Offer customers option for constant prices
  - Retail providers see "true" time costs in wholesale markets
  - Price will have to cover cost to of peak wholesale energy
- Retail providers (if open market) don't internalize outage cost
- Distributors could internalize but don't bear outage cost
  - Does decoupling attenuate incentives to worry about outages?
- Role of consumers overall
  - Do they *really* want to know all their use data?
  - Regulation as substitute for search, not markets per se?
  - Much energy policy depends on consumer "failure"

Other regulatory speculations

- **Cost recovery**
  - **Rate of return issue: Sure, if allowed return includes any risk premium regarding net value**
  - **For some distribution utilities in retail, may not get (or need) cost recovery if avoided peak wholesale costs exceed costs of AMI/TVP**
  - **If upfront investment needs to be expensed, face "if utilities want it, it must be bad" syndrome**
- **Decoupling**
  - **In principle, distribution utility insulated from lost profits due to retail price > wholesale cost**
  - **But TVP benefits utility already**
  - **Could reduce opposition to additional conservation policies for demand more at peak—but is that the right policy margin?**

REV goals and other regulatory issues

- **TVP promotes demand response**
- **Improve energy efficiency (on peak)**
  - **Do prices affect use? Ahmad, Frank say yes!**
  - **Asymmetric information in TVP adoption**
- **Incentive for DG (DER) if DG works at peak periods**
  - **Solar panels?**
- **Who should provide TVP, energy management, DG?**
  - **Regulated utility or competitive enterprises?**
  - **Distribution needs pricing reform, move to fixed (telco history)**
  - **"Nth best" environmental policy may be usage-based recovery**