



# The Integration of AMI and Demand Response

- ConsumerPowerline was founded in 2000; Ranked #60 on 2006 INC 500 list; recipient of Deloitte Fast 50 Award for NY
- Largest provider of Demand Response (DR) services nationally based on client payment - we have paid out more than \$18 million to clients from DR services alone
- Actively participating in ISO DR working groups in CA, NY, NE, and PJM to ensure market structures enable / foster greater DR participation (e.g. sustaining metering rebates in NE)
- Active participant in related working groups like MADRI (Mid-Atlantic Distributed Resources Initiative Working Group)
- MADRI AMI “Toolbox” - [www.energetics.com/madri/toolbox](http://www.energetics.com/madri/toolbox)

- **Market Context**
  - Meter Power!
  - Meter Rights
  - Metering value
- **Short Term**
  - Technology
  - Costing / Pricing
  - Implementation
- **Long Term**
  - Food for thought...
  - Alternative structures for “meter assets”

- **Meter Metaphors” - power in information**

- Cash Register
- Traffic Light
- Subway Turnstile
- Toll booth
- Bar Code Scanner



- **A utility's asset and a “public good”**

- From Cash Register to Craig's List
- From Traffic Light to Google Earth
- From Subway Turnstile to ATM-subway-cards

If metering is a public good...

- **End-users have a right to their own data**
  - Basis for billing / charges
  - Measurement of their operations
  
- **Real Time Pricing / TOU rates will increasingly require interval data**
  - Users can't respond to price signals without it
  - Unfair to charge them these rates without it

If value is shared, who pays?

- End-users - only major organizations self-finance
- Utilities - traditionally only good business for large customers
- ISO / System / Agencies - support metering to increase DR participation
- DR providers / energy management firms - balance by per point and per facility/client economics

***...Market must compensate whatever entity installs and maintains metering to guarantee this metering right for end users***

- **DR Market Needs**
  - Economically viable for all user types -- current market revenues do not cover costs except for very large clients
  - Subsidies for 1-time installation costs
  - Subsidies for smaller end-users
  - Subsidies for on-going monitoring
  
- **Current Solutions**
  - Utility-financed implementation
  - Rebates paid by systems benefit charges via agencies (eg NYSERDA)
  - Rebates paid by ISO (eg ISONE)
  
- **Observations / Suggestions**
  - Rebates need to be an on-going part of DR implementation -- they are needed beyond the initial roll-out of DR
  - Focus rebates on new/untapped clients/markets (not upgrades of existing clients)
  - Rebate requirements will vary depending on DR revenues
  - Rebates could be based on the quality / level of participation of the resource

- **Basic Requirements for end-users and DR providers**
  - Data capture at varying intervals
  - Communications / transmission of data
  - Web-based access to data
  
- **Optimal requirement for Demand Response**
  - “Open source” -- standardized outputs
  - 5-minute or better intervals
  - Broadband transmission
  - 2-way communications
  - Web-based access to data
  
- **Right-sized technology**
  - Build to fit need / economic justification; don't overbuild

- **DR Provider Wish List for Utilities**
  - Utility Metering Department support
  - Central contact person across locations / technologies
  - Updates / documentation of work progress / completion
  - Reliable turn-around times
  - Web-based access to client billing (upon authorization)
  
- **DR Provider support for utility metering**
  - Facilitate site access / client cooperation
  - Provide supplemental site information
  - Premium fees for rush services
  - Thank you's

### ***CL&P Metering Department***

***-- average turnaround time of 6 business day in October -  
surpassing their already impressive 30-day commitment!***

- **Should metering be de-coupled from utilities business?**
  - Key principle: End-user rights to their own data
    - More metaphors*
    - *cash register receipts; 401K statements, freedom of information act...*
  - Utilities as data providers?
    - Is this the core business?
    - Do utilities really want to deal with vendor requests?
    - What if others value the data more than the utility?
  
- **Alternative structures**
  - Citizen's utility board (? National; ? ISO-territory-wide)
  - Common / public / non-profit administrator of metering access rights
  - Service provider of data and communications
  - All authorized users pay "access rights" that pay for installation and maintenance (utility, end user, vendors, etc)

*More and more metaphors -- phone access rights*

## **Metering & Monitoring**

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## **Market Analysis**

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