

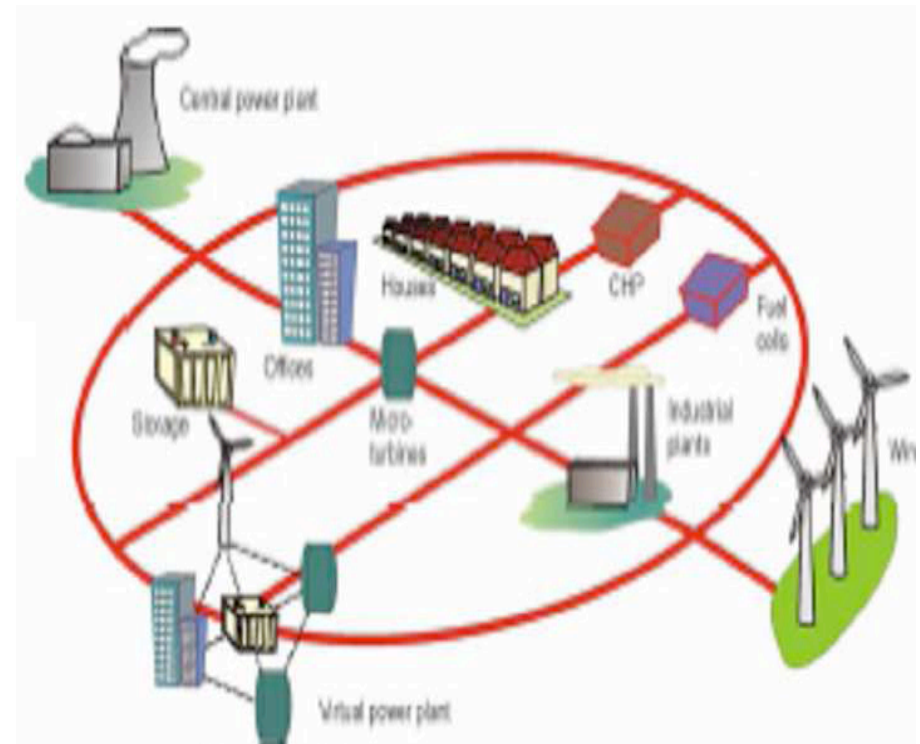
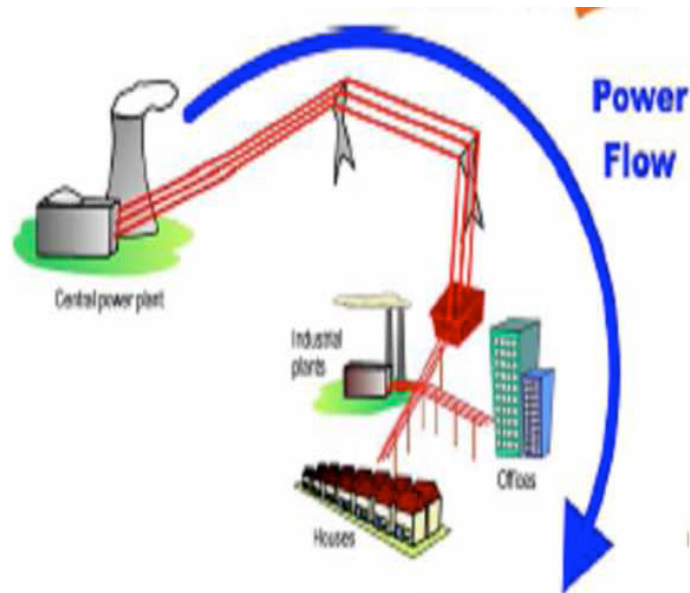
Meter Automation... Much talked about but only a small part of a still bigger picture

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Smart Grids change much, but they are also only a part of the answer



Metering is not *just* about meters

- It is about:
 - Measurement
 - Communication
 - Processing
 - Information (and its re-distribution)
- + Climate Change (involves policy, governments, organizations and people)

Automated metering occurs/needs to occur in many forms

- Electricity
- Gas
- Water – clean
- Water – dirty
- Fuels
- Communications
- Etc.

There are many interests/ participants

- For example, in electricity
 - Generators (the few)
 - Transmission/network delivery
 - Distributors
 - Meter owners/managers
 - Brokers
 - Consumers/customers (the many)
- Each industry and/or country combination has its own approach

Scale of the challenge

- UK's power usage varies from 55TW-11TW; 25-40% of generating cost lies in last 10TW
- A medium sized country (e.g. Spain) with 40M+ people will have some 30M electricity meters
 - With 1 reading every 15 minutes
= 2.9^9 readings/day, for 365 days/year
 - With 1 reading every 60 seconds
= 4.3^{10} readings/day, for 365 days per year
- *NB1: This is only one-way traffic; government requirements are increasingly for 2-way capabilities*
- *NB2: This presumes 1 meter per 'place'; what happens if there is a meter per device?*

Are meter readings transactional?

- *No*, because these are only ‘data points’: “it does not matter if you lose a few ...”
- *Yes*, because so much will depend on accuracy (from generator decisions to consumer decisions)
- I argue that the latter applies - because of the need for:
 - accuracy of billing
 - accuracy of decisions
 - accuracy of actions
- But huge volumes of data involved

3 electricity 'action' examples

- Who do you blame for when your home is cold (or hot)?
- How can you ensure sufficient capacity?
- How can 'The National (Vehicle) Battery Effect' be exploited?

Implications

- Meter measurements are a foundation (much like click data is for ads., etc.)
- There are going to be huge volumes of data on which many will depend (from Governments to Consumers)
- Consumers are the oft-forgotten but wholly necessary decision participants; measurements are a resource to be mined by consumers
- *Measurements must be treated as 'transactions' so that all interested parties can depend on the data*
- New industry-specific collection/processing utilities may emerge (think DTC in the financial services arena), outside conventional IT

At the risk of over-stating it...

The Planet may even depend on the consequences of automated metering and our (HTPS-like) abilities to store, process and make available what meters provide

But too many thinking about this via narrow interest groups rather than as a whole

Thank you

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