AFRICAN UTILITY WEEK | CLEAN POWER AFRICA

Landis+Gyr
manage energy better

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Opportunities in Metering Technologies

Advanced Metering Technologies have for more than a century, helped the world manage energy better.

Metering and solutions have empowered **utilities** and **end-customers** around the world to :

- Improve energy efficiency
- Reduce energy costs
- Contribute to a sustainable use of resources

Broad statements! How does this create opportunities in Metering Technologies

Opportunities in Metering Technologies

Opportunities around Metering	Challenges in Utilities
Manage energy better	Rising Energy prices (more customer issues)
Revenue Protection	Rising Energy prices, increased tampering
Improved customer interaction	Sluggish economy
Accurate account information	Perceived inaccurate billing
Re-branding Utilities or service companies	Multi-channel communication from Utilities (many people required to address customer problems)
Internet service provision	Response time to customer queries
Enhancing the customer experience	PV or other generation into the grid

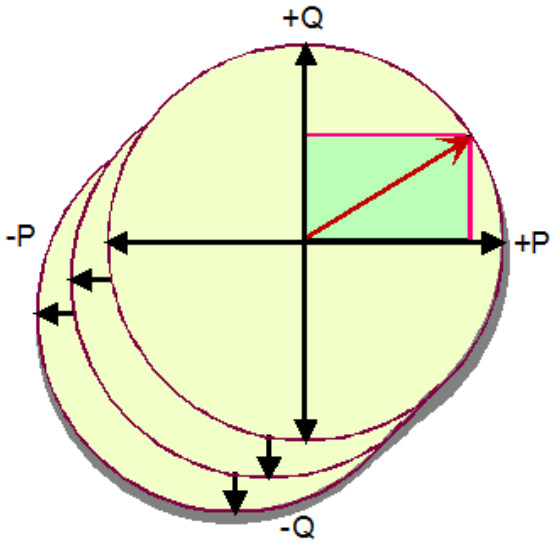
*Only to mention a few

Both Commercial and Residential Meters have evolved

Advanced Meters no longer only measure the kWh at the end of the month.

Utilities now have more information (data) on hand to assists customers with queries
Customers are able to go online and use self help functionality
Some future sets

- Use Digital Measurement, higher accuracy obtained
- Multiple energy values (+A, -A, +R, -R)
- Load profiling
- Meter data storage
- Local event logging
- Local Alarms or triggers
- Display of all instantaneous values
- Online Time Of Use
- Etc.



Both Commercial and Residential Meters have evolved

Advanced Residential Meters are configurable as.

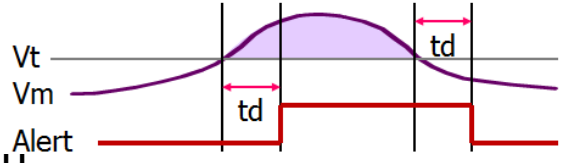
1. IEC 62055 (STS) ‘kWh” prepayment meter
2. IEC 62055 (STS “TOU”) prepayment meter
3. Standard flat rate post paid kWh meter
4. Time Of Use post paid meter
5. Back office virtual prepayment solutions

- All the above with remote access enabling remote connect and disconnects

Improvement of energy efficiency with Metering

Load profile data from smart meters therefore allow utilities to;

- Implement **Demand Side Management** programs
  - End point load management
  - Forecasting and planning load switching
  - Commercial and residential load shedding participatio..
  - Load limiting customers

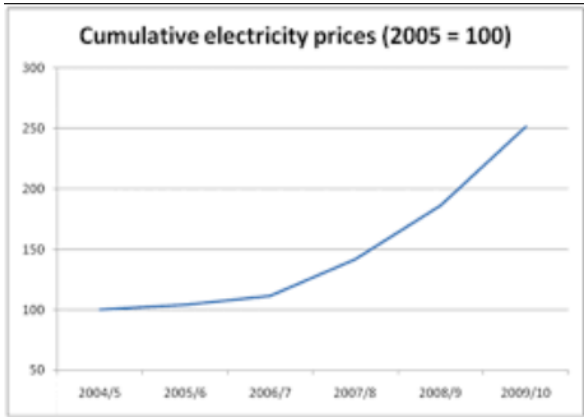


- **Power Quality** events and recording, outage management, over and under voltages etc
- **Renewable generation management**
  - Control various generation sources on the grid

  * Germany is arguably the leading renewable energy market in the world, but now face problems managing the 1000's of customers importing to the grid

Financial benefits to Utilities

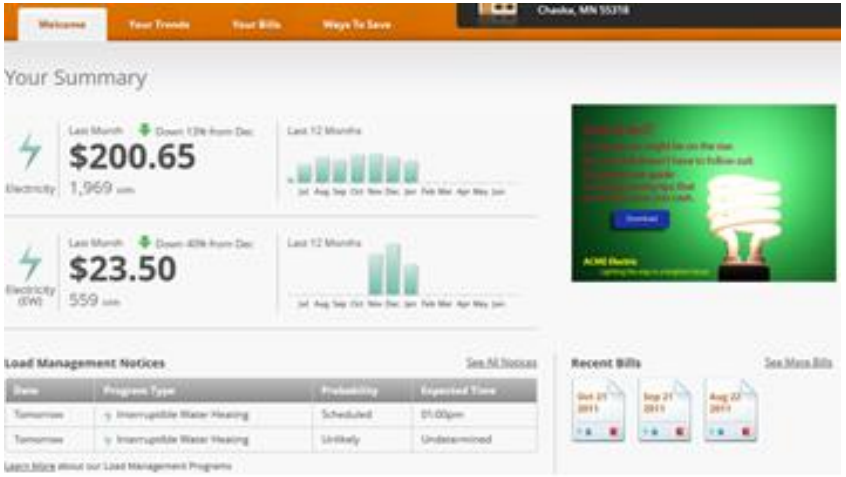
- Reduction of Commercial technical and non technical **losses**
- Energy **balancing** throughout the network
- Large reduction in **Energy Theft** with the continuous monitoring of consumption and thus controlling and detecting the illegal use of electricity
- Optimized operations once fully implemented
- Reduced onsite costs
- Reduction in over time call outs
- Cut out the cost of disconnections and re-connects



As electricity increases so will theft

Customer information on the WEB

- Customers using portals have the benefit of
  - Online Utility accounts
  - Current monthly reading
  - Annual profile
  - Tips and information on energy savings
  - Current national or local load warnings
  - Weather forecast
  - Disconnects and re-connections
  - Time Of Use information
  - etc

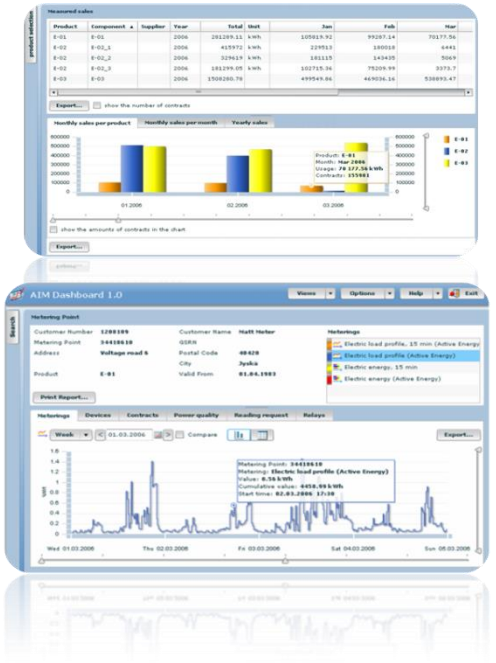


Manage Energy Better

Utility Contact Centres

With all the information on hand Utilities will reap the benefits, such as:

- Cost savings, less customer visits
- Improved call centre responses
  - Customer information is immediately available
  - One stop interface to all customer information
- Improved customer satisfaction



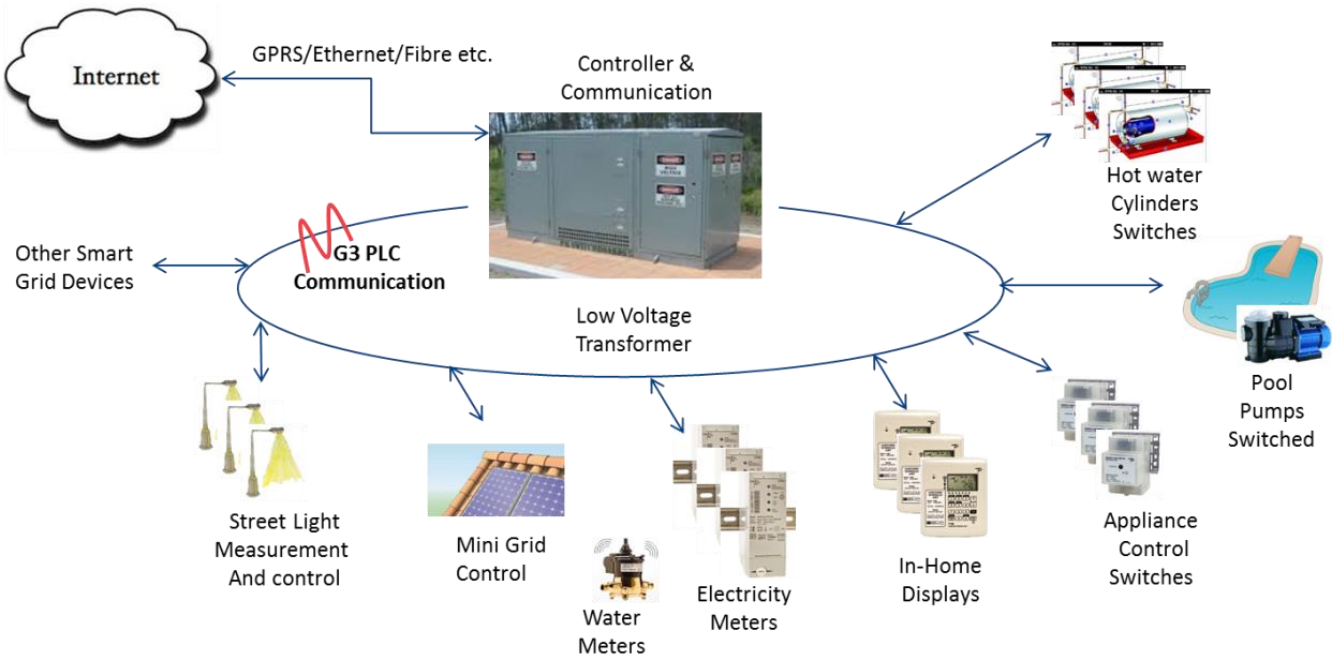
Challenges that Utilities will face

- Early implementers “Standards not complete”
- Purchasing proprietary solutions
  - Technology quickly outdated “Dead-end technology”
  - limited upgrade possibilities
  - Locked into one or two service providers for the next 15 years
  - Possible long term communication challenges (open and free licences)
  - Lack of interoperability – not future proof
- Information overload, data storage and processing
- Utility staff training and acceptance of new systems
- Dedicated staff to the new smart role out or solution “the lights need to keep burning”

- Stick with **OPEN** and **INTEROPERABLE** standards, meter parks are planned for a 15 year life cycle

Conclusion

- Plan for the 15 years, be sure to follow **standards developed for the region**
- Smart metering **will work** for Africa
- Look at the long term, what will be on the grid today and tomorrow



Thank you