Landis+Gyr
60 O'Riordan Street
Alexandria NSW 2015
Australia

Fax: +61 2 9690 7400
Internet: www.landisgyr.com

Landis+Gyr manage energy better

Landis+Gyr - PO Box 6274 South Sydney Business Hub Alexandria NSW 2015

Mr Philip Weickhardt
Presiding Commissioner – Electricity Network Regulation Inquiry
Productivity Commission
Level 2, 15 Moore Street
Canberra 2600

Dear Mr Weickhardt

On behalf of Landis+Gyr I would like to thank you for the opportunity to present at Monday's (3rd Dec 2012) public hearing for the Productivity Commission's Inquiry into Electricity Network Regulatory Frameworks.

We have attached our presentation for your perusal.

Landis+Gyr is Australia's only manufacturer of smart meters, employing over 350 staff. Our manufacturing and Asia Pacific R&D centres for smart metering are located in Sydney and Melbourne.

As we highlighted at the meeting, Landis+Gyr recommends that the Commission considers the following as integral to ensuring a successful nation-wide smart metering rollout:

1. The minimum functionality for smart meters must be based on the National Smart Metering Program (NSMP) Smart Metering Infrastructure (SMI) minimum functionality specification to ensure that all beneficiaries of the smart grid can realise cost benefits upon deployment. A smart meter must have the functional capability to support smart grid and home area networks, in addition to its remote communications capacity.

2. A mandated rollout with a set timeline is also critical to ensure a cost optimal rollout in terms of deployment efficiency and distribution of upfront costs. Without mandated rollout, we have estimated that rollout will be AUD 260m higher in cost due to additional installation costs. Furthermore ad-hoc deployments would lack economies of scale and this would increase inefficiencies further.

3. The current deployment of accumulated and interval meters needs to be halted. A strategy of rollout of *smart ready* meters for a small incremental cost (to interval meters) will be prudent to avoid stranded assets and wastage cost which we have estimated to be around AUD 38m a year.

Finally, Landis+Gyr considers smart metering technology offers a feasible and rational solution for Australia's electricity stakeholders, offering them a platform whose 'building blocks' can be updated and enhanced over time to meet both growth and development in demand- side management technologies.

Yours sincerely,

Milan Vrkic
General Manager Marketing & Strategy

Australian Government
Productivity Commission

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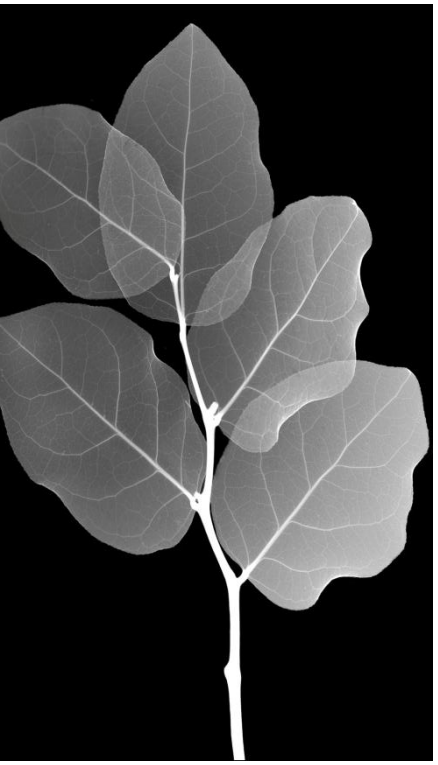


Landis+Gyr Submission:
Electricity Network Regulatory Frameworks

For

Australian Government Productivity Commission

3 December 2012

Background

- Thank you

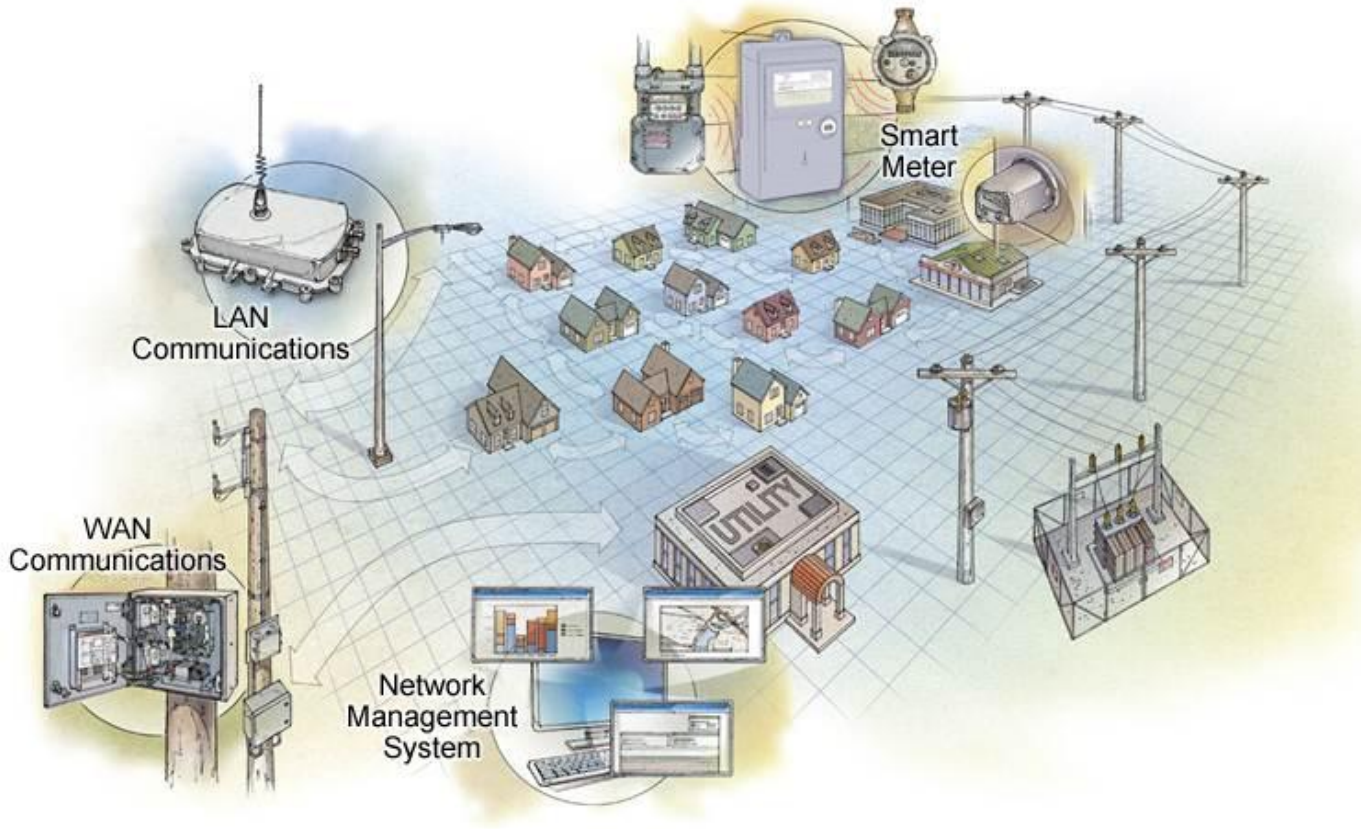
- Introducing Landis+Gyr Pty Ltd
  - International leader in smart metering technology
  - Key supplier of interval and smart meters in Australia including
    - Victorian AMI program
    - Ausgrid's Smart Grid Smart City project
    - Western Power Smart Meter trial
  - Manufacturing meters in Australia since 1921
  - Manufacturing and R&D presence in Australia enables us to address Australia's industry challenges effectively

Definitions

- Smart Grid
  - Also known as ‘Intelligent Grid’
  - The delivery of real-time visibility and control of the electricity network (‘the grid’) with use of sensors, information and communication technology
  - Enabling better balancing of supply and demand; and greater efficiency of network operations
  - Benefitting society including businesses and consumers

- Smart Meter (syn. Advanced Meter)
  - An element of smart grid
  - An upgrade from traditional accumulated meter and interval meters
  - Features include
    - 2-way communications; Remote meter reading; remote connection and disconnection; quality of supply monitoring; outage detection; tamper detection; controlled load management ; supply capacity control; and home area network (HAN)

A View of Advanced Metering Infrastructure (RF Mesh)



A smart meter infrastructure includes

- Smart Meter
- Communications Module
- Wide Area Network Infrastructure
- Network Management System
- Integrated platform with MDMS and network systems such as OMS

Recommendation 1 : Minimum Functionality Specification for Smart Meter based on NSMP

- There must be sufficient functionality - as a minimum - in a smart meter for immediate benefits for all stakeholders concerned
- Presently the AEMC proposed functionality states
  - A visible display with at least accumulated active energy able to be read in the display
  - At least one measurement element which is accurate within specified limits
  - A communications interface
  - Electronic / remote data transfer facilities (for nominated types of meter)
  - Specified security arrangements
  - Bi-directional energy measurement
  - A measurement element for active energy is mandatory. A measurement element for reactive energy is discretional
  - Storage of measurement data in the meter with a minimum of 35 days
- From a metering perspective this is 'basic' meter with remote read capability
- Additional functionalities are required as a minimum
  - To support Smart Grid
    - Safety features (disconnect relay, temp monitoring and consumer supply monitoring)
    - Network reliability features (power quality monitoring, measurements from distributed generation)
    - Load control management (existing audio frequency load control)
    - Remote firmware upgrades (for enhancements)
    - Imposition of minimum standards for design, manufacturing and calibration
  - To support Home Area Network
    - Smart Energy Profile

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An example of Landis+Gyr Smart Modular Meter

Why is Minimum Functionality Specification for Smart Meter required ?

- Marginal meter cost for additional functionality to address full market requirements
  - With volumes the cost differential between smart meter and interval meters is reducing
- Most economically efficient
  - Benefits derived by multiple stakeholders

Recommendation 2 : Mandate with Set Timeline for Smart Meter Rollout Completion

1. It is the most efficient and cost effective approach

2. Avoids risk of market failure

Why Mandate with Set timeline for Smart Meter Rollout?

1. It is the most efficient and cost effective approach
   - Non mandated rollout across the NEM* (ad hoc on consumers' requests) will cost additional ~ AUD 260m higher than mandated rollout [NOTE 1]
   - Meter volumes drive costs
     - Region by region and ad hoc deployments would lack economies of scale and this would increase differential further#

* Excluding Victoria

Amount would be based on volumes

Why Mandate with Set timeline for Smart Meter Rollout?

2. Avoid market failure
   - Benefits flow to multiple market participants
     - It is questionable if a single party will deploy full functionality to equip Australia with an intelligent smart grid to address the energy requirements for the 21st century [refer to Recommendation 1]
   - Regional / ad hoc deployments unlikely due to high upfront costs
     - Program implementation costs including IT, project management and system integration will have to be incurred regardless of number of homes deployed
     - First regional project would have to justify significant IT and system integration costs
     - Subsequent regions would benefit from the first implementation

A No Regret Move : Avoid Stranded Assets

- Victorian DPI and MCE business case for smart meters indentified avoidance of meter replacement as key benefit
- Industry is still installing meters that cannot be upgraded to smart meter
- L+G estimate that this wastage accounts for AUD 38m / year (Note 2)
- *Smart ready* meters exist today at a small increment to existing interval meter.
  - The strategy of rolling out *Smart Ready* meters will avoid 'stranded assets'
  - These meters can act as interval meters until stakeholders decide to invest in smart meter infrastructure implementation

Thank you!

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APPENDIX Notes and Assumptions

- Note 1 :
  - Smart meter cost per household (mandated rollout) is calculated as $240 which equates to ~ AUD 1.560m across the rest of NEM (for meters, communications and installation)
  - The key difference on this analysis is the installation cost of $40 for mandate and $80 for ad-hoc deployment
- Note 2 :
  - Installed base = 6,499K. (total premises from AER Sate of energy market 2011 for NEM market states excluding Victoria)
  - Meter replacement rate of 3.3% per year of existing meters. Replacement rate based on estimated lifespan ~ 30 years for electromechanical meters
  - New home growth of 1.2%
  - Meter Costs $50 meter (a conservative average of interval meters and accumulation meters)
  - Meter Installation Costs $80