



*International Organization of Legal Metrology*

*Organisation Internationale de Métrologie Légale*

# **Smart Meters in Competitive Energy Markets – Where does Legal Metrology Fit?**

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# Scope of Presentation

- Changes – The UK National Measurement Office
- Great Britain – why smart metering?
- The challenges – market and regulatory
- GB Smart Metering – preferred approach
- Proposed additional functionality
- EU MID – why it impacts
- Standards and Consistency – why it is important
- Legal Metrology within the GB smart metering project
- Points to consider from our experience



# National Measurement Office

## – *the background*

***April 2009***

- Responsibility for the UK national measurement infrastructure
- Name change from NWML to NMO
- Statutory responsibility for gas and electricity meters transferred from Ofgem
- Increased financial, organisational and staffing responsibilities



# National Measurement Office

## - *the new role*

- UK measurement infrastructure
- Measuring instruments used for trade
- NWML Services
- Traceability for all UK measures
- UK government experts
- Represent UK at WELMEC and OIML
- EU MID and NAWI
- EU RoHS & Batteries Directives





# Great Britain

## - *why smart metering?*

- Help consumers reduce carbon emissions and save money
- Stepping stone to smart grids and distributed generation
- Could improve energy supply competition
- Eliminates issues caused by manual and estimated reads
- Greater range of tariff packages available for energy suppliers
- Future EU legal requirements



# The challenges - *market and regulatory*

- Fully competitive retail energy supply market
- Metering competition
- Interoperability and minimum specification
- Legacy meters
- Cost benefit analysis
- Government intervention vital



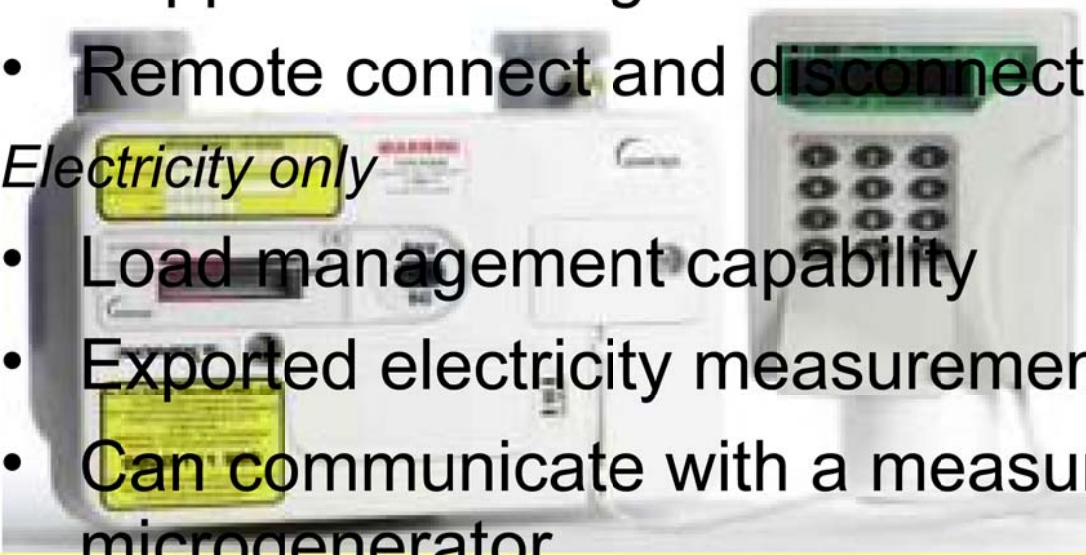
# GB Smart Metering *Preferred Approach*

- All domestic gas and electricity meter sites
- Advanced or smart metering systems for business
- Central Communications model
- Suppliers remain responsible for meters
- Promote co-ordination of roll-out at local level
- Proposed interoperability and high level smart functionality



# Proposed Additional Functionality

- Remote provision of reads/information for defined time periods
- Two-way communications to the meter system
- Home area network based on open standards and protocols
- Support for a range of time of use tariffs
- Remote connect and disconnect of supply
- *Electricity only*
- Load management capability
- Exported electricity measurement
- Can communicate with a measurement device within a microgenerator







# Measuring Instrument Directive

## *Why it impacts*

- Must be no barriers to trade
- National standards or requirements may fore markets
- Procurement specifications from dominant players may have the same affect
- MID does recognise “additional functionality” but only requirements within MID are mandatory
- Individual countries do have different requirements
- European smart metering standards may be partial answer





# Standards and consistency

## - *why it is important*

- Provides a framework that regulators can work with
- Enables contribution from all experts
- Provides a starting point to address the MID issues
- Should enhance competition in smart metering and systems provision
- Should not stifle innovation
- Should not be too prescriptive





# Legal Metrology within the GB Smart Metering Project

- Worked with central policy leads from an early stage
- Contributed to initial technical requirements
- Highlighted potential conflicts with our regulations early (MID)
- Working with colleagues in WELMEC
- Understand where our role starts and ends
- Defend what matters



# Points to consider from our experience

- Get early active involvement with smart metering initiatives
- Gain technical understanding of how the technology works
- Understand what is important – the measurement!!!
- Think about safeguards if things go wrong
- Be proactive but flexible – work with industry and policy leads to ensure your requirements are met
- Think about how to deal with in-service issues
- Talk and share experiences



*Thank you !!!*



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