



**COPOLCO Workshop**  
**Homes for tomorrow – Building through standards**

London (United Kingdom), 24 May 2011

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Summaries of papers to be delivered and in annex biographical sketches of the speakers

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## Summaries

*(In programme order)*

### Sustainable housing

**Mr. Peter Caplehorn**

*Chair of CB/Construction & Built Environment Sector, Scott Brownrigg, United Kingdom*

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#### **What standards?**

Homes for tomorrow will be lower carbon both in delivery and in use. They have more facilities; they provide greater comfort security flexibility and value. I hope also they will have better aesthetics. They will deliver much more for less, they will have less defects, and be subject to greater checking and ongoing maintenance (MOT). Central to this agenda is the need to establish what parameters and specification are built in. This is the role of standards and specifications. Regulations start the ball rolling but the underlying standards actually address the detail, especially where government is asking for less red tape less bureaucracy. Standards will play an important part.

#### **Control**

Construction needs control; this comes from regulations and standards. Without these there would be a free-for-all, delivery would suffer and the result: chaos. Arguably the regulations we currently have do the job, but greater understanding and compliance is needed. We often do not know if compliance is even achieved at design, let alone at procurement or construction. Certainly for addressing issues such as low carbon this is essential.

Considering building performance in use is also important in relation to low carbon and sustainable designs. The need to ensure the building users understand how it should work is critical; standards may help here too. The need to achieve greater understanding and get building users to use buildings as designed is crucial to their—and our—future.

The current Building Regulations approved documents A to P with goal setting principles in each part, and then guidance as to what is needed, are our starting point. Often, however, the practical solution is not that clear and at times frustratingly difficult to define.

#### **Where do standards come from?**

If we examine relationship of building regulations to standards, how does this relationship work? Acquired knowledge, good practice and best practice guidance for the trades by the trades, all need to be taken into account and the best standards will do just that. But we also must realize that all too often standards are spoilt by manufacturers, and vested interests are allowed to play too much of a part. This is now being addressed, and in due course we can look forward to a more balanced approach. Generation of new standards that fit the industry, and guides to assist design and building procurement are on their way. We also have PAS 91, a standard on procurement, and one for designing for working at height as examples.

#### **What areas need standards:**

The most important subjects I suggest are:

- Sustainability
- BIM
- Low carbon
- Health and Safety
- Quality and compliance

## **Modelling homes for the future**

**Mr. Richard Waterhouse**

*Chief Executive Officer, RIBA, Enterprises, United Kingdom*

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This presentation explores the role that Building Information Modelling (BIM) will play in delivering efficiencies in both design, construction and maintenance of housing in the future.

Clients both large and small will see benefits such as improved simulation to ensure compliance with the clients' expectations before construction work begins. Benefits of BIM will apply to all players in the project as the methodology can be used to improve co-ordination between the design and construction teams as well as being used to make increasing use of off-site construction methods.

Using 3D CAD models as the starting point for managing information, Building Information Modelling uses related sets of digital construction information to create virtual models of building projects. The 3D models are supplemented with many types of information including construction products, environmental and cost data as well as structural and HVAC data. The virtual building can be used to test layout and orientation as well as more technical issues such as energy performance, planning programmes and cost scheduling. In addition, the BIM data can be used to ensure compliance with any regulatory framework and can be used for modelling structural and environmental requirements. Benefits of modelling do not end when the final scheme is completed as the model can become the 'as-built' record of the building.

However, the introduction of BIM provides many hurdles including standardization of information at both national and international levels. Insight will be provided into the current standardization initiatives and a glimpse of developments that might appear in the future.

## **Sustainable and green housing – a German and European perspective**

**Ms. Monika Büning**

*Policy Officer, Environment, Product Safety & Standardization, Federation of German Consumer Organizations, Germany*

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Sustainable and green housing has many aspects, as we can speak about:

### **1. Houses for various generations**

- Houses should be built with an architecture that can be changed easily.
- Health and comfort aspects should receive attention, for example in the materials used or in the way the bathroom is designed (accessibility for disabled people).

### **2. Effective heat insulation for old buildings**

- Financing heat insulation (owner, tenant, bank, state...)
- Realization of heat insulation without disturbing the structure of old buildings.

### **3. Smart = Greener Houses**

- Saving energy through smart meters because consumers can change their behavior easily
- More efficient use of energy in houses.

### **The role of standards in this sector:**

There are many different standards for the above mentioned topics. For consumers one important aspect is to have the possibility to differentiate products or buildings and to assess the quality of

services.

Some example of standards concerning sustainable and green housing/building:

- ISO/TR 9527:1994, *Building construction -- Needs of disabled people in buildings -- Design guidelines*
- ISO 15392:2008, *Sustainability in building construction -- General principles*
- ISO/TS 21929-1:2006, *Sustainability in building construction -- Sustainability indicators – Part 1: Framework for development of indicators for buildings*
- ISO 16814:2008, *Building environment design -- Indoor air quality -- Methods of expressing the quality of indoor air for human occupancy.*

## **Rebuilding after disasters: the impact of resilient Communities**

### **Mr. Paul Murphy**

*Global Technical Leader, Property and Buildings, GHD, Australia*

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In this presentation Mr. Murphy will discuss the way in which standardization can play a role in the development of communities which are resilient to physical disruption, but also how this can deal with social and community disruption and dislocation. Following recent natural disasters across Australia, New Zealand and Asia, there has been an increasing focus on way in which individuals, governments and communities can be better prepared for and respond to such disasters. How can standards and standardization processes enable communities to be more resilient?

## **Social responsibility and Sphere standards for transitional shelter for humanitarian disaster relief response**

### **Mr. Gordon Browne**

*Freelance Shelter Consultant, The Good Earth Trust, United Kingdom*

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Agencies and NGO's providing relief – humanitarian response following a disaster – have to act in a socially responsible manner. Many of these actors are signatories to The Code of Conduct for International Red Cross and Red Crescent Movement and NGOs in Disaster Relief, and the Humanitarian Accountability Partnership (HAP).

The Sphere Standards framed these humanitarian charters and identified minimum standards to be attained in disaster assistance, in each of five key sectors (water supply and sanitation, nutrition, food aid, shelter and health services).

This presentation focuses on Chapter 4: Minimum standards in shelter, settlement and non-food items and in particular, shelter. There are standards, key actions, key indicators and guidance notes that provide advice in achieving these standards.

Everyone has the right to adequate housing. This right is recognized in international legal instruments and includes the right to live in security, peace and dignity, and with security of tenure. The planning guideline is of 45 m<sup>2</sup> per person that includes household plots and the area necessary for roads, footpaths, educational facilities, sanitation, firebreaks, administration, water storage, distribution areas, markets and storage, plus limited kitchen gardens for individual households. The key indicator is an initial covered floor area per person of least 3.5m<sup>2</sup>.

In the UK, there are 'decent homes standards' that landlords and housing providers must obtain. The approved documents of the building regulations have to be met in any housing proposal. For example, there are problems with increased standards driven by the need for more sustainable construction that are having an impact on the internal living environment, such as energy

efficiency and the need for buildings to be airtight, whilst providing adequate ventilation to prevent condensation forming.

Take these pressures of the UK model and place them in the context of a transitional shelter in a refugee camp. The typical shelter is plastic sheet to a high UN specification conforming to various ISO standards. An improved shelter or home may be constructed of earth blocks.

In conclusion, we have a humanitarian social responsibility, which conforms with the voluntary guidance as outlined in ISO 26000, and to provide adequate housing in disaster assistance to a minimum Sphere standard. The question remains of what is 'adequate' and what is achievable in certain given circumstances?

#### References:

[http://www.sphereproject.org/component/option,com\\_frontpage/Itemid,200/lang,english/](http://www.sphereproject.org/component/option,com_frontpage/Itemid,200/lang,english/)  
<http://www.hapinternational.org/pool/files/hap-code-of-conduct.pdf>  
<http://www.ifrc.org/Docs/idrl/I259EN.pdf>  
<http://www.homesandcommunities.co.uk/decenthomes>  
<http://www.planningportal.gov.uk/buildingregulations/approveddocuments/>

## Don't be a victim twice: Protecting consumers before and after a disaster

### Mr. Rigo Reyes

*Acting Director, Department of Consumer Affairs, County of Los Angeles, USA*

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Disasters leave more than torn shingles and uprooted lives in their wake. With no access to their homes, financial documents, and sometimes lacking any proof of identification, displaced people often struggle to rebuild their financial lives. While many people go out of their way to assist victims after a disaster, criminals see disasters as an opportunity to prey on vulnerable victims. Common scams include phony disaster officials, identity thieves, fraudulent contractors, fake charities, bogus public insurance adjusters, and price gouging. And many consumers are rarely prepared to protect themselves from thieves and con artists who descend on disaster-stricken areas within hours after a disaster. Disaster responders need to know what the common post-disaster scams are, how to educate people to help them avoid frauds and scams, and how to assist people who are victimized. This presentation will cover these issues and explain:

- **Prevention:** Things government officials and the public can do to prevent post-disaster scams, including preventative public education and outreach to teach people about post-disaster scams; how to safeguard personal information; the need to inventory personal property; and how to create an emergency preparedness plan.
- **Detection:** Establishing accessible disaster recovery centers and telephone hotlines for consumers to learn about scams targeting their communities, how to get assistance and resources to recover from the disaster, and how to file complaints if they are victims of consumer fraud. You will also learn how to identify who the key stakeholders are, plus how to form effective partnerships with them.
- **Remediation:** Effective techniques to resolve consumer complaints, build partnerships to investigate and prosecute fraud cases, and pass legislation to address disaster-related crimes.

## Panel discussion:

### Smart meters in the home – Asset or liability?

#### Information & Control

**Mr. Neil Avery**

*ANEC Consumer representative*

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The implementation of smart metering is an opportunity for consumers to benefit from more accurate billing and to receive better feedback on their energy consumption, but the new technologies can also bring unintended consequences. Standards need to ensure that consumers are helped to realize the benefits of smart metering and are protected from the risks associated with the new technology.

In Europe, Standardization Mandate M/441 was issued in March 2009 with the objective of:

“...creating European Standards that will enable the interoperability of utility meters...which can then improve the means by which customers’ awareness of actual consumption can be raised in order to allow timely adaptation to their demands (commonly referred to as smart metering)”.

The European Standards bodies have set up a Smart Meter Co-ordination Group to execute this task, of which ANEC is a member. This group has recently issued a draft Technical Report on communications which, if approved by the standards bodies, will inform the work of the Technical Committees responsible for developing the standards.

If consumers are going to be able to realize the benefits from smart meters, key issues which need to be resolved include how all consumers, especially those in vulnerable circumstances, can be:

- Given easy access to clear and usable real time information which enables better monitoring of appliance usage and empowers consumers to reduce consumption
- Provided with better information on historical usage
- Incentivized to make better choices through the provision of appropriate price signals based on real time energy pricing
- Helped to switch supplier, export energy or access new services

Similarly, it is essential that consumers retain control over their energy use and that concerns about smart meters are addressed. Consumers must be protected from:

- Having to pay more due to confusing, unfair or unhelpful time of use tariffs
- Use of smart metering functionality to
  - Disconnect or restrict supplies remotely
  - Switch consumers to prepayment (pay as you go)
  - Remotely control appliances
- Being “locked in” due to technology, long term contracts or lack of competition

To achieve the wider objectives of reducing energy consumption and carbon emissions, all consumers must be fully engaged in the implementation and use of smart meters - but how will this happen? How can we ensure that the specific requirements of consumers in vulnerable circumstances are properly addressed? What can realistically be achieved through standards and what issues can best be addressed through regulatory action?

## Smart meters in the home – Asset or liability?

### Privacy and security

**Ms. Anna Fielder**

*Trustee, Privacy International; Sustainability Co-coordinator, BSI, CPI Network, United Kingdom*

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In the homes of today, utility companies use meters to record household energy consumption (gas and electricity), for billing and management purposes. Typically a person comes round to “read the meter” and this can happen at intervals as long as two years. The homes for tomorrow are set to have a ‘smart’ meter, at the receiving end of a ‘smart’ grid. They are being rolled out in great numbers in the US, Canada and across Europe. The EU has mandated in its 3rd Energy Package 1 that smart metering systems are fitted to 80% of European homes by 2020 (subject to economic assessment). As at the end of 2010, it is estimated that 21 million smart meters have been installed in the United States.

These meters, a combined computer and meteorological unit, can collect energy consumption data in real time, communicate information over great distances at frequent (down to the minute) intervals and receive remote instructions and reconfiguration, including changes of tariff or payment methods, as well as remote disablement. Utilities can communicate directly with customers via in-home display units. Communications can take place via mobile (cell-phone) operator networks, or fixed telephony networks, or electricity grids.

Consequently privacy and consumer advocates have grave concerns related to the privacy, data protection and security implications of smart meters and grids. The dramatic increase in the frequency of collection of household energy consumption data means that the smallest detail of household life can be revealed, with potential risks or identity-theft, increase in data broker consumer profiles, real-time surveillance or unwanted publicity. Furthermore, security of supply may also be at increased risk, for example in the case of a cyber-attack. Currently, utility companies lack experience in secure implementation, so experts say there’s a sure chance that already deployed meters will contain security vulnerabilities.

There are a number of essential policy measures that need to be taken to address these concerns, including:

- Establishing the principle of privacy by design and security; default data collection from smart meters should be absolutely minimal. This principle should be applied both to processes and in-built technology, and include robust testing.
- Carrying out independent Privacy Impact Assessments on all aspects of smart meters.
- Mandating independent internal audits of energy suppliers’ security and privacy processes to evaluate risks around their practices.
- Storing historical energy consumption data in the meter only (inside the user domain), as the meter readings are the most privacy critical information.
- Making best use of privacy enhancing technologies, in particular the new advances in cryptographic techniques which allow building systems that do not require the sharing of personal information.

Standards, both technical and process related, are clearly essential to meet such policy goals. On the European level they will be developed or updated according to the recently published Mandate M/490, which has as objective a framework integrating ICTs, electrical architecture and associated processes and services, that will achieve both interoperability and required functionalities AND will answer the technical and organizational needs for sustainable state-of-the-art Smart Grid Information Security and Data Protection and Privacy (DPP). A tall order!

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<sup>1</sup> Directive 2009/72/EC

The important question is how all this can be enacted at the wider global ISO level to avoid duplication of efforts and to avoid conflicting standards, bearing in mind also the valuable work on privacy by design in relation to smart meters being done in other parts of the world.

## How consumers can benefit from smart meters/smart grids and what the issues are

**Mr. Rémi Reuss**

*Consumer Affairs Advisor, AFNOR, France*

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*Input from the Consumer Committee of AFNOR (France) and the Consumer Council of DIN (Germany) - April 2011*

### European context

An ambitious European policy on energy, in particular:

- Directive 2006/32/CE on energy efficiency and energy services
- Directive 2009/72/CE (common rules for the internal market in **electricity**) and Directive 2009/73/CE of July 13<sup>th</sup>, 2009 (common rules for the internal market in **natural gas**) : "States shall ensure the implementation of intelligent metering systems that promote the active participation of consumers in the market for the supply of electricity".

A political will to deploy advanced metering (or communicating) systems: several million meters in Europe (over 100 million for gas, 300 million more for electricity, ..)

### Large feedback from France and Germany

In France, important pilot projects are underway: Linky (electricity), AMR (Gas), Zen Box. Linky experiment, conducted by ERDF (Electricité Réseau Distribution France): **225 000 smart meters installed in January 31<sup>st</sup> 2011.**

Accordingly, consumer representatives are already very involved and active particularly in working groups devoted to those pilot projects, and participate to standardization meetings within AFNOR.

In Germany, The Consumer Council of DIN has worked on Ergonomic aspects of Smart Grids.

- The usability of the Smart Grid by the consumer is an elementary factor for acceptance and market growth.
- Ergonomic aspects need to be taken into account. The meter in the smart grid has become a user interface, whilst it has been a simple reading unit for professionals before. The consumer is supposed to integrate into the Smart Grid as a "smart consumer" via this user interface.
- The Consumer Council of DIN contracted the ERGONOMIC Institute Berlin in October 2010 to develop a study/report on "Ergonomic aspects in eEnergy – standardisation needs".

### Issues

It is important that consumers can take ownership of this issue and ensure control of their energy demand, while enjoying the expected benefits.

#### Expected benefits of deploying Smart Grids / Smart Meters

- Appearance of incentive rate offers for a better management of mobile energy peak.
- Potential opportunities to have attractive offers, adapted to the rhythms of life for everyone.
- billing based on real use, and not based on an estimation
- No need to be present during meter reading.
- Faster response (especially when moving)
- The ability to benefit from regular surveys of consumption.

- Productivity gains for suppliers and distributors by the expected deployment of these meters and networks (management, surveys) to be passed on to consumer bills.
- Opportunities for providers to offer new (free?) services related to the control of energy demand.

*But also identified risks of deploying Smart Grids/Smart Meters*

- Offers which may proliferate and which may be quickly incomparable
- A potential source of disputes and difficulties with the possible emergence of new technical features (service cutoff in case of payments incident...)
- A risk of development of prepayment tariffs, which could generate prohibitive costs and risks of interruption of service for most vulnerable consumers.
- Issue of access to consumption data (in France, only 50% of meters are accessible by the consumer).
- Costs of access to the services of energy demand management paid by customers ; as a result, a reduced impact on the actual potential savings for the customer.
- Issue of respect and protection of personal data : a need for clarification regarding the use of information, including the habits of the households in their daily life. Issue of the duration of data retention.
- The question is who will have access to which kind of data.

**Ergonomic shortcomings, based on the study undertaken by DIN**

**Shortcomings of the meter**

Examples:

- contrast and readability of the font
- passive displays are depending on the lighting in the surrounding areas
- seven-segment display is too abstract and difficult to read and understand for many consumers
- Use concept
- Optical input device – long holding is necessary, mounting often on top of meter, feedback/interaction missing
- Height of mounting of the meter – should be adjustable for different consumers

**Shortcomings of other output devices**

Examples:

- Colour is used as only means of coding
- Use of colours not user friendly
- Colour coding not according to international standards (red=go)
- Font is too small
- Line length too long with too little line spacing

**Results of the study**

- Ergonomic aspects are not taken into account by the applications and devices on the market.
- The existing (international) ergonomic standards can and need to be applied (e.g. ISO/IEC 9241 series for input devices).
- The experts on ergonomics need to be involved in the standardisation work.

**Identified needs from the consumer's perspective / Recommendations**

*There is a need for ownership, by consumers, of services given by smart meters and offers those meters will allow:*

- Need for education to allow ownership of the issue by the user, on a global perspective (environmental) and local perspective (economical).
- Need for awareness campaigns on energy management (especially to encourage families to avoid peak periods and to opt for incentives and relevant rate offers.

- Need to have a physical access to data. In practice, the electric meter is not necessarily physically accessible. In many cases, the display will have to be apart of the meter.

#### **Recommendations for actions increasing consumer acceptance and awareness :**

- Consumer-oriented Technical Report containing relevant use cases and best practices
- Structured list of product (and services) selection criteria for consumers (checklist)
- Revision of existing requirements for meters with regard to ergonomics and accessibility aspects.
- There is a need for information in a suitable, relevant and understandable format. Raw data from the meter does not allow the control of energy demand. The information should allow the user to manage his energy demand in an informed and enlightened manner.

#### **Recommendations on ergonomic aspects:**

- Take into account specifically the need at the user interface (i.e. the meter and other output devices) :
  - usability
  - ease of use
  - accessibility
  - trust (psychological factor)
  - product information / operating manual
  - design of the bill and display of the consumption data (transparency)
- Need of guarantee of privacy and protection of personal data

#### **Recommendation in order to anticipate the potential conflict between ergonomic and privacy aspects:**

- Consumption data, that is not relevant for billing, shall only be available to the consumer. Simple authentication mechanisms are needed.
- Privacy needs to be simple for the consumer
- For all Privacy measures, accessibility and usability aspects are to be taken into account. The choice of the output device needs to be made by the consumer. Alternative output devices are needed.
- „Design for All“/„inclusive Design“ principle is fundamental to the market if use of Smart Grid becomes mandatory.

#### **Other needs / recommendations**

- The number of indexes and proposed rates should remain limited, to avoid the risk of bothering consumers with incomparable offers.
- Develop comparison tool of energy offers.
- On a wider perspective, need for harmonization of the processes and devices used by different stakeholders on the energy market: Electricity, Gas and also Water: Common “gateways” between systems should be established.
- Need for information on the origin of energy, including renewable energy (solar, wind ...)
- Inclusion of eMobility aspects into the Smart Grid (absorption peaks, storage of electrical energy).
- Moreover, consumer associations note the interest of consumers for facilities based on renewable energy (solar panels, heat pumps). The consumer becomes an energy provider. The problems arising from the double role of the consumer need to be addressed.
- In particular, a guidance for energy offers comparison tools could include consumer issues related to facilities based on renewable energy.

**Recommendations for standardization projects**

- Terminology standard
- Guidance Standard on ergonomic principles in the Smart Grid, In particular :
  - For the definition of common “gateways” between different systems (electricity, gas, water)
  - For the information on the origin of the energy used
- Guidance for the use of ergonomic standards for the development of user interface devices in the Smart Grid, with definition of suitable, relevant and understandable format.
- Guidance for the definition of energy offer profiles

**National resulting actions (for information)**

**For the Consumer Council of DIN**

- Establishment of a national committee dealing with ergonomic aspects in eEnergy and developing the proposed guidance standards (May/June 2011)
- Members will be experts of eEnergy and experts of Ergonomics.
  
- For the Consumer Committee of AFNOR
- Active participation of consumer representative in AFNOR Strategic Committee “Energy Efficiency”

## Biographies

### ***Opening ceremony***

*(In programme order)*

#### **Mr. Mike Low**

*Director of Standards, BSI, United Kingdom*

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Mike Low joined BSI as Director of Standards in November 2003, from senior posts in the energy industry, including responsibilities related to health, safety and the environment. He was involved in the privatization of the electricity and nuclear industries, becoming Managing Director of British Energy's UK Generation and also a Main Board Director.

Since joining BSI Mr. Low has focused on greater engagement with Business and Government and driven creation of Standards products in the fields of risk, sustainability, carbon management, new technology and services all aimed at improving business performance with particular interest in SMEs, consumers and raising the awareness of the benefits of Standardization.

Mike is a member of the BSI Board and the Board of Trustees of the Chartered Quality Institute. He is a member of the ICAEW, Institute of Chartered Accountants in England & Wales, Practice Assurance Committee and a fellow of the Royal Academy of Engineers and Chartered Quality Institute. He is also a member of the Board of the UK Government National Measurement Service and the Government's Innovation Infrastructure project.

Mike is also a Vice President of CEN, the European Standards Organization.

#### **Ms. Norma McCormick, *Workshop Chair***

*Chair of ISO/COPOLCO*

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Norma McCormick is founder and principal of Corporate Health Works, Inc. established in 1987. In addition to general safety consultation and training, she assists companies in writing of safety policies and procedures and in developing and implementing safety programmes. She is a long-time member of the Canadian Standard Association's Winnipeg Community Advisory Panel on Occupational Health and Safety and a member of the CSA's Strategic Steering Committee on Occupational Safety and Health. She was a member of the CSA Technical Committee responsible for the development of an Occupational Health and Safety Management System standard (CSA Z1000 2006), and CSA Z1600 - Emergency Management and Business Continuity. She is currently the chair of CSA TC Z1004, now preparing a Workplace Ergonomics Standard. Norma also serves as Chair of the Standards Council of Canada's Consumer and Public Interest Committee representing a special interest in workplace health and safety, and is a member of CAC-COPOLCO – the Consumer Policy Committee. At the international level, she represents ISO COPOLCO on the ISO's Strategic Advisory Group on Security and is a Canadian delegate to ISO-TC 223 – Societal Security. Effective January 2010 Ms. McCormick was appointed Chair of ISO's Consumer Policy Committee, the first Canadian to hold this position.

## **Speakers**

*(In alphabetical order)*

### **Mr. Gordon Browne**

*Freelance Shelter Consultant, The Good Earth Trust, United Kingdom*

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Gordon Browne has worked in providing shelter to several disaster relief emergencies, promotes earth block construction through the Good Earth Trust and works with Shelter Centre on developing guidelines and shelter solutions for humanitarian response. Current research involves assessment of various stabilizers to rammed earth blocks, and advising on the development of the Shelter Centre prototype transitional shelter.

### **Ms. Monika Büning**

*Policy Officer Environment, Product safety & standardization, Federation of German Consumer Organizations (vzbv), Germany*

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Monika Büning is a political scientist. From 1994-2000, she studied political science, history and anthropology at Westphalian Wilhelms-University in Münster, Germany. This was followed by studies of comparative central European studies at Europe-University Viadrina, in Frankfurt/Oder in Germany and the Collegium Polonicum, in Slubice, Poland.

In 2004, Ms. Büning became Assistant, European and International Affairs, at the Federation of German Consumer Organizations (VZVB), in Berlin, Germany. Since 2006, Ms. Büning has been Policy Officer, Environment, Product Safety and Standardization, at VZVB. In this role, she focuses on product safety, toy safety, product labeling and nanotechnologies.

### **Mr. Peter Caplehorn**

*Chair of CB/Construction & Built, Environment Sector, Scott Brownrigg, United Kingdom*

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Peter Caplehorn is Technical Director, supporting all Scott Brownrigg Projects and responsible for sustainability, compliance Health and Safety workplace compliance and CDM. He is resolving technical problems in design and site. Peter Caplehorn is ensuring awareness of new legislation materials and technologies.

Mr. Caplehorn sits on industry wide committees, gives seminars on technical and health and safety subjects. He has attended every one of the Grand Designs Live shows as an expert advisor. He has taken part in programs for the Einstein Channel. Peter has scripted and appeared in a series of DVD's intended to offer guidance on a wide range of issues to young professionals.

### **Mr. Paul Murphy**

*Global Technical Leader, property and Buildings, GHD, Australia*

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Paul Murphy is the Global Technical Leader for Property and Buildings in Architecture, Engineering and Environmental Consultancy, GHD. For the last 8 years Paul has led the Security Consulting business within GHD and provided advice to government and private sector clients on issues around security, emergency management, national security and infrastructure protection. As a practicing civil engineer and security professional, Paul understands the interface between security, technology, people and infrastructure; the need to maintain security and also facilitation at airports. Paul is a lateral thinker and known for his ability to integrate and communicate across teams.

Paul is a member of the National Centre for Security Standards steering committee and an active member of the security community. Paul regularly contributes to the development of standards,

policy and guidance materials within the security and engineering profession and is a regular participant and speaker at industry conferences and seminars.

**Mr. Rigo Reyes**

*Acting Director, Department of Consumer Affairs, County of Los Angeles, USA*

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Rigo Reyes started his career with the County of Los Angeles Department of Consumer Affairs as a consumer fraud investigator in 1995. He has held the positions of Supervising Investigator, Chief Investigator, and is now the Department's Acting Director. He is fully responsible for directing the Department's functions, including:

- The investigation and resolution of consumer complaints involving unfair, unlawful or deceptive business practices.
- A consumer outreach and education program to prevent, report, and remediate consumer fraud and issues.
- Programmes to define and promote lawful, fair and responsible business practices and consumer responsibility.
- Recommendations for the adoption and enactment of local, state and federal laws and regulations to protect consumers and promote fair business competition.
- The enhancement of consumer protection through collaboration with elected officials; prosecuting, regulatory, and law enforcement agencies; community-based organizations; and the media.

Mr. Reyes is also the current President of the California Consumer Affairs Association, an elected position he has held since 2007. A 35-year old consumer advocacy organization, CCAA's members include law enforcement, regulatory, legislative, advocacy, and licensing agencies whose primary function is consumer protection. During his tenure, Mr. Reyes has increased CCAA's collaboration with strategic partners and stakeholders, raised its profile in the consumer protection community, and developed a strategic plan to ensure the organization's continued success.

Mr. Reyes graduated from the University of Southern California with a Bachelor of Arts degree in political science.

**Mr. Richard Waterhouse**

*Chief Executive Officer, RIBA Enterprises, United Kingdom*

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Richard Waterhouse is Chief Executive of RIBA Enterprises, the trading subsidiary of the Royal Institute of British Architects, and is a member of the RIBA Group Executive. The Company provides knowledge and information products for the UK construction industry including specification, product information and technical documents.

Prior to joining the company, Mr. Waterhouse qualified as a Chartered Architect and worked in a number of architectural practices. Having operated in both sales and training roles, Richard led the development of the NBS product range before taking over as Managing Director of NBS. He has been Chief Executive of RIBA Enterprises for seven years.

Mr. Waterhouse is a Fellow of the Institute of Directors and is currently President of the International Construction Information Society. He is also a member of the British Standards committee covering the development of Building Information Modelling.

## **Panellists**

**Panel moderator:** Mr. Rob Steele, *ISO Secretary-General*

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Rob Steele took up the post of ISO Secretary-General on 1 January 2009. Rob Steele was the Chief Executive Officer of Standards New Zealand (SNZ) until 2007. Mr. Steele is a Chartered Accountant, a member of the New Zealand Institute of Directors, and a Fellow of the New Zealand Institute of Management. He was also Secretary of the Pacific Area Standards Congress (PASC) from 2002 to April 2007. During his tenure as CEO of the New Zealand standards body, he represented SNZ on ISO's governance bodies where he was involved in developing policies on the global relevance of International Standards. Prior to joining SNZ Rob Steele was Chief Executive of an electricity distribution company in New Zealand for eight years; and worked in New Zealand and Canada in financial audit and advisory services for an international accounting firm for 18 years. He has also served as a director of several companies in the manufacturing and service sectors during his career.

**Panellist:** Mr. Neil Avery, *ANEC Consumer representative*

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Neil Avery is a Consumer and Public Interest representative with BSI and represents ANEC on the Smart Meter Co-ordination Group which is overseeing the development of smart metering standards in response to Mandate M/441. He is also working on a draft ISO standard for network services billing (DIS 14452) and has recently helped to develop a new British Standard (BS18477) on Inclusive Service Provision. Neil has more than 25 years of senior level experience in the UK Energy Industry, including representing consumer interests as Director of Consumer Services for Energywatch, the UK statutory consumer body. Since 2009, he has been a freelance business consultant and is also a Trustee of Bracknell and District Citizens Advice.

**Panellist:** Mr. Stephen Douglas, *Regulatory Manager, British Gas, United Kingdom*

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Stephen Douglas works for the Regulatory Affairs division in British Gas. He is the data privacy lead for the company's Smart Metering Programme. He also advises on a variety of consumer protection matters. He is a contributor to the Smart Grids Task Force Expert Group 2 (Data Protection and Privacy), a member of UK smart metering Privacy and Security Advisory Group, and a member of the Confederation of British Industry's Data Protection Working Group.

Prior to moving to his current role, Mr. Douglas was Data Protection Manager for British Gas. He began his career at the Information Commissioner's Office, the UK's Data Protection Authority. He has a Postgraduate Diploma in Information Rights Law and Practice.

**Panellist:** Ms. Anna Fielder, *Trustee, Privacy International; Sustainability Co-coordinator, BSI, CPI Network, United Kingdom*

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Anna Fielder is a long-standing consumer advocate, working as a policy and public affairs consultant since 2006 for national and international public interest organizations. She is on the board of Trustees and Company Secretary to Privacy International and elected Steering Committee member of the Civil Society Information Society Advisory Council (CSISAC) to the OECD ICCP committee. She coordinates consumer and public interest representation into standards covering sustainability for the British Standards Institution. She is policy advisor to UK Consumer Focus on privacy related to smart meters. She was previously the Regional Director for Developed and Transition economies at Consumers International (CI), the global federation of consumer groups, where inter-alia she launched the Transatlantic Consumer Dialogue.

**Panellist:** Mr. Rémi Reuss, *Consumer Affairs Advisor, AFNOR, France*

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Rémi Reuss has an initial training as engineer in material sciences. He worked for almost twenty years in the National Consumers Institute (INC) in Paris, France. He first served as a research engineer before becoming Head of Technical Department of INC. He then had the responsibility to animate and supervise the comparative testing centre.

Today, he works in AFNOR, the French national standardization body. He is Consumer Affairs Advisor, responsible for the relationships with consumer organizations and also with local communities. He is also the Secretary of the Consumers Committee of AFNOR. This committee is dedicated to consumers' activities in the standardization process at the national level, and acts as a mirror committee to COPOLCO.

The Consumer Committee is composed of seven delegates from consumer associations and other delegates from administration, national consumer institutes, the Commission for Consumer Safety, and the national test laboratory. Its Chair is always a delegate from a consumer association. This committee also has a permanent working group which all the consumer associations can attend to set priorities from a consumer's point of view.

### ***Moderators and rapporteurs***

#### **Break-out sessions**

**Moderator:** Ms. Jeanne Bank, *Manager, Standards, Health and Safety, CSA Standards, Canada*

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Jeanne Bank is the Manager of Standards, Health and Safety, with the Canadian Standards Association and is responsible for stakeholder relations and business development for CSA's work in health care, occupational health and safety and consumer policy activities. Prior to taking on this new role in 2010, Ms. Bank was responsible for CSA's Occupational Health and Safety Program and CSA's Consumer and Member Services Program. She is a member of the Consumer and Public Interest Committee of Standards Council of Canada and the Canadian Advisory Committee to COPOLCO. Jeanne has been a co-chair of several COPOLCO Working Groups and is the former President of the International Consumer Product Health and Safety Organization (ICPHSO).

**Moderator:** Mr. Bill Dee, *Chair ISOCOPOLCO Working Group on Consumer Protection in the Global Marketplace and Chair TC 207 / SC 3, Environmental labelling – Standards Australia*

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Bill Dee has had extensive experience in the international standards scene.

Mr. Dee is a member of COPOLCO, ISO's advisory committee on consumer policy, and chairs its Working Group on Consumer Protection in the Global Market.

He was convener of the working group that drafted the ISO standard on complaints handling (ISO 10002) and was a member of the working groups drafting standards on market-based codes of conduct (ISO 10001) and external dispute resolution schemes for customers (ISO 10003). He is also an expert on the Working Group that drafted the International Standard on Social Responsibility (ISO 26000).

Bill Dee chairs ISO TC 176/SC 3, a sub-group that drafts international standards on environmental labelling.

**Moderator:** Ms. Linda Golodner, *President Emeritus, National Consumers League, USA*

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Linda Golodner has dedicated her professional career advocating for consumer rights in healthcare, food and product safety. She has also focused her work on corporate social responsibility and ethical behavior in the marketplace. Golodner was President and CEO of the National Consumers League from 1985 to 2007 and is now President *emeritus* and represents NCL on several boards and advisory groups.

Ms. Golodner is on the Board of Directors of the American National Standards Institute and a member of its Consumer Interest Forum; she is a member of the U. S. delegation to COPOLCO and was the U.S. consumer expert to the ISO Working Group on Social Responsibility and is on the Underwriters Laboratories Consumer Advisory Council. Golodner is a public board member of the National Commission for Certification of Physician Assistants and Vice Chair of the Water Quality and Health Council.

Ms. Golodner is on the Board of Directors of the Fair Labor Association, a multi-stakeholder nonprofit organization dedicated to ending sweatshop conditions in factories worldwide and building innovative and sustainable solutions to abusive labor conditions.

**Moderator:** Mr. Arnold Pindar, *Chairman, The National Consumer Federation, EurChem CChem MRSC, United Kingdom*

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Having trained as an analytical chemist, Arnold Pindar spent many years in government service, much of this time dealing with consumer safety matters. In 1997 he left the Laboratory of the Government Chemist (LGC) and joined BSI, where he was Head of Consumer & Societal Policy until retirement in 2006. His consumer safety work included a £0.5M contract with DTI (now BIS), chairing and representing the UK at European Council and Commission Working Parties developing harmonization Directives dealing with consumer safety, and membership of many BSI and CEN Technical Committees. During his time at BSI he chaired ANEC's Coordination and Services Committees and was the European Commission's Consumer Committee representative on ANEC's General Assembly, ex-officio member of the ANEC Steering Committee (2000-2005), chaired ISO/COPOLCO's Priorities Committee and co-chaired the Training Group. He has trained consumers to work with national standards bodies on 5 continents. He is currently Chair of the National Consumer Federation and is the UK Representative on ANEC's General Assembly and member of the ANEC Steering Committee and Services Working Group.

**Rapporteur:** Mr. Darryl Kingston, *Senior Program Officer, Standards Council of Canada*

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Darryl Kingston has been with the Standards Council of Canada since May 1998. He is responsible for providing the secretariat to the Standards Council's Consumer and Public Interest Advisory Committee as well as the Canadian Advisory Committee to ISO/COPOLCO, Canada's mirror committee to ISO's Committee on Consumer Policy. The focus of the committee work is on developing and providing strategic recommendations and policy input from a consumer and public interest perspective regarding national and international standardization.

Darryl is a certified trainer of the Standards Council's Member Training Program. He has developed valuable leadership experience through the Energizer's Leadership Camp and the 3M Coaches National Certification Program.

**Rapporteur:** Mr. Jean Lukaz, *Executive Director, The Consumer Partnership, Ghana*

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Jean Lukaz had his training in Linguistics, French and Russian (with Spanish) and studied further in the UK in International Law & Politics, and Hospitality Management. He is a member of the Institute of Hospitality (UK) and a past Chairperson of its Ghana International Branch. He is a lecturer-consultant and has also worked as a Business Development Services (BDS) Tourism

Adviser for GTZ and DANIDA projects in Ghana. Mr. Lukaz was resourceful as a private sector advocate in developing standardized modules for basic competencies in the hospitality & tourism industry and the Ghana Tourism Bill now before Cabinet.

In 2005 he took an interest in consumer protection when a charter flight went bankrupt overnight and left passengers stranded in London and Accra as he stormed the Ghana Tourist Board offices with TV cameras and a team of lawyers to get relief for the consumers. Afterwards he founded The Consumer Partnership, the logo of which incorporates a pair of handcuffs as a reminder. Learning from Arnold Pindar in Gaborone of TC 228 on *Tourism and Related Services*, he got the Ghana Standards Board (GSB) to adapt and develop standards for the tourism industry.

Mr. Lukaz is a consumer representative on the Technical Committee (TC) on tourism and related services, the National Mirror Committee on Social Responsibility and the Certification Mark Committee (CMC) at the Ghana Standards Board. He has an online repertoire of over 200 articles on consumer protection, tourism and public diplomacy. Jean Lukaz is a beneficiary of the COPOLCO Train-the-Trainer Programme and others on *Consumer Participation in Standardization* and was the leader of the Task Group on guarantees/warranties. He sometimes represents GSB at COPOLCO meetings.

**Rapporteur:** Ms. Mohana Priya Veerabarathi, *DSM Malaysia*

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Mohana Priya Veerabarathi coordinates matters related to consumer education on safety standards for consumer products and services. Her scope of work includes facilitating comparative testing of consumer products for safety standards compliance.

Ms. Priya Veerabarathi is in charge of coordination for planning events related to promotion, education, training to promote importance of standards. She takes part in relevant standards development activities at the national and international level representing consumers' interest.

**Rapporteur:** Mr. Rémi Reuss, *Consumer Affairs Advisor, AFNOR, France*

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Please see Rémi Reuss's bio as panellist, above.

**Conclusions (with Linda Golodner):** Ms. Ratna Devi Nadarajan, *CEO, Malaysian Association of Standards Users*

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Ratna Devi Nadarajan oversees matters relating to consumer participation in standards development activities at national level, as well as development of promotion and awareness programmes related to importance of safety standards for consumer products and services and social responsibility. She develops consumer education and promotion materials related to standards, standardization and social responsibility, and identifies needs for research or surveys in the interest of safety of consumer products and services.

As secretary of the National Mirror Committee on ISO COPOLCO, Ms. Nadarajan coordinates ISO COPOLCO related activities at national level. She is co-convenor of the ISO COPOLCO Product Safety working group. Currently she is the secretary of ISO/PC 240 on Product Recall.