



COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, September 2009

**PUBLIC CONSULTATION RESULTS**

# PUBLIC CONSULTATION ON INFORMATION AND COMMUNICATION TECHNOLOGIES FOR A LOW CARBON SOCIETY

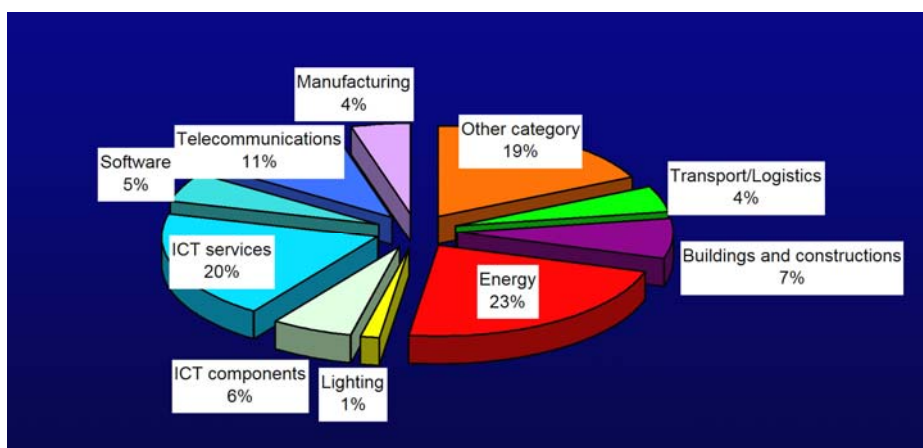
## INTRODUCTION

The above-mentioned consultation ran for 10 weeks between March 30 and June 14, 2009. It was to serve as a pre-cursor for a Commission Recommendation *on mobilising Information and Communication Technologies (ICT) to facilitate the transition to an energy-efficient, low-carbon economy* – its aim being to assess the readiness of stakeholders to endorse and to implement the measures that could be put forward in a Recommendation.

The following is a synthesis of respondents and responses focusing on the points of most relevance.

## 1. PROFILES OF RESPONDENTS

### 1.1. Sectors represented



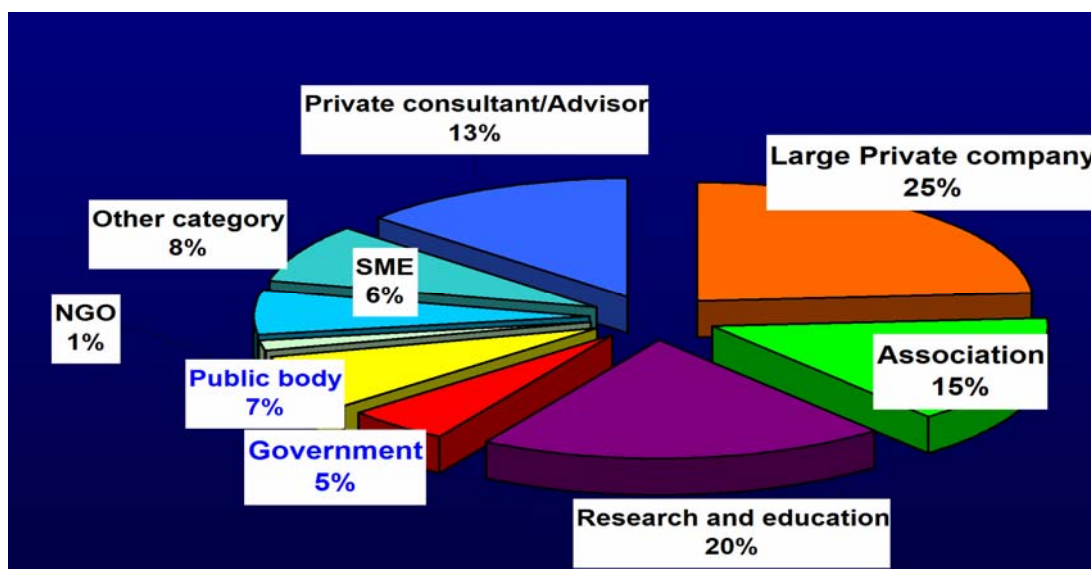
The 201 respondents reflect the **wide range of stakeholders** concerned by this subject. Just over half of the respondents originate from the ICT sector, mainly from its software and services part.

Just under a quarter of responses originates from the Energy sector (23%) and a smaller portion from the Buildings/Construction and Transport Logistics sectors (11% together). 19% of respondents classified themselves under Other Categories, including trans-sector

associations such as *Eurochambres*, as well as ministries and local authorities or related entities.

*The spread of respondents includes sectors not confined to typical stakeholders of policies and measures covered by DG Information Society. This is a positive indication of the level of awareness and interest beyond the ICT sector, and given that a closely related consultation by DG TREN (on the EEAP) partially overlapped with this consultation. A number of those non-ICT players also volunteered supplementary comments by email.*

## 1.2. Type of organisations represented



There was a significant response from Associations, including the major ICT sector associations as well as a number who classified themselves as belonging to the energy, and the Buildings/Constructions sectors, respectively.

A table of associations along, with description they provided, is included in annex 1.

*It is considered significant that a number of players (10%), in addition to responding to the online questionnaire, submitted sometimes very elaborate answers via the dedicated mailbox. This option was taken-up by a number of key stakeholder associations, confirming that they are independently addressing and elaborating on one or more of the major issues addressed.*

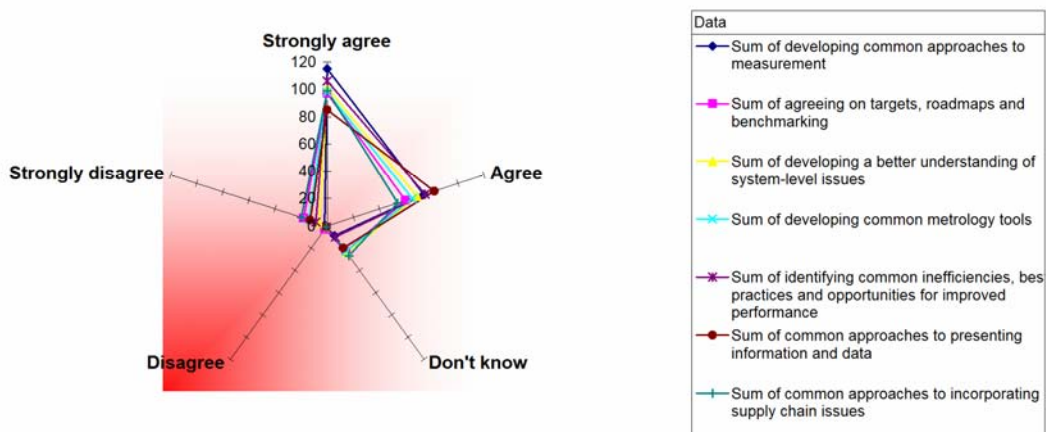
## 2. CONTENT OF THE REPLIES

### 2.1. ICT Sector Section

Free-format contributions from DigitalEurope, TechAmerica, GeSI, and some other key players in the industry (manufacturers, software companies and telcos) provided specific views on the needs, means and potential for sector-level collaborative efforts to develop a common approach on measuring, verifying and reporting energy and environmental performance, and defining benchmarks and targets. Given that energy and environmental performance are increasingly business critical, companies now recognise the need for agreement on what targets to set and how to measure.

This is an important shift in the views of these associations in particular, from the period preceding the adoption of the latest Communication in March 2009. The prior consultation and subsequent meetings with these associations had indicated that they tended to be hesitant on the possibility of being called upon to contribute.

Since then, these associations have been not only more open but willing to contribute, even pro-actively. This was clearly indicated by the freeform contributions received. There is no longer a debate on the need for collective commitments to reduction. Additionally, there is a strong consensus on the necessity to address the "common measurement" issue and a positive view on a role for the Commission in this process.



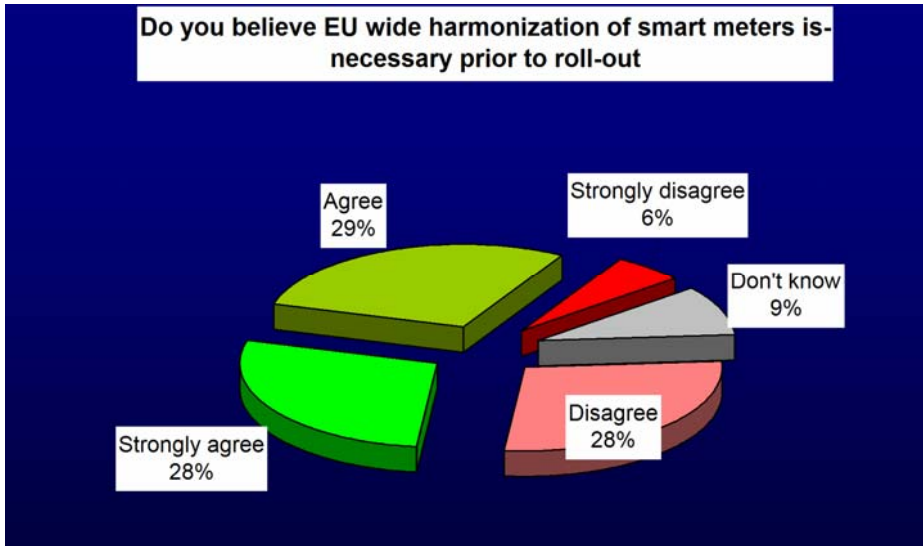
*Overall, the need for common measurement appears to be the top priority (94% of respondents). With regards to who should be involved in reaching a sector level agreement, the favour goes largely towards sector associations (80% of respondents) with an even higher level of replies in favour of a facilitating role for the Commission in such a process (90% of respondents).*

## **2.2. Smart Metering**

The level of response, in particular from energy sector players, (regulators, large utilities, and others) confirms the growing relevance of ICTs to that sector. The replies reflect the evolving and ever-blurrier frontier between what qualifies as ICT and what qualifies as energy technologies, with possible implications on which regulatory framework might apply in future.

It was observed that *smart-metering* would be a better choice of wording than *smart-meters* since the latter suggests ‘changing meters’. The former, it is claimed, better reflects the actual potential of *remote meter reading* (no change of meter needed) in enabling further Demand Side Management solutions to be deployed. Both the Energy and the ICT Sectors acknowledge that the Commission can play a clear role in facilitating the development of an adequate vocabulary to define this new field and potentially new sector of economic activity, and in defining a suitable mix of incentives and regulatory measures.

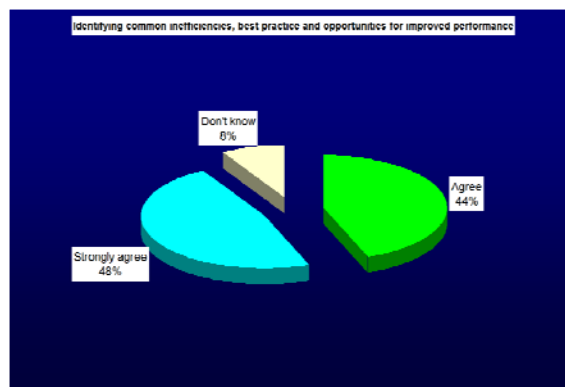
On the necessity of ‘harmonizing’ smart metering *prior* to roll out, a majority of respondents agrees or strongly agrees (57%) but a substantial minority does not see such harmonization as *necessary*. However, harmonization is regarded as being *useful* (87% agreeing or strongly agreeing).



On the role of the ICT sector in contributing to smart metering, 55 of the ICT sector respondents provided additional comments, elaborating on either the way to support the take-up of smart-metering or the business model to apply once smart-metering would be available across the EU. The energy sector sees a clear role for ICTs. Many of the respondents pointed to the extent to which smart-metering would trigger the development of new ICT applications and related uncertainties. These replies have been added in Annex 2.

This reinforces the case for recommendation on the need for measures such as pilots to address these uncertainties.

### 2.3. Enabling role of ICT in Buildings/ Construction, Transports and Logistics



A high number of respondents (92%) agreed or strongly agreed on the need for identifying common inefficiencies, best practices and opportunities for improved performance and 83% supported an approach involving cross-sectoral partnerships with a

larger group in favour of associations as participants (84%) than independent experts (65%) or individual companies (58%).

#### **2.4. Cities and local authorities**

An increasing awareness by the local and regional players of the importance of their contributions to the EU 2020 targets is also noticeable. The most elaborate reply comes from *EUROCITIES*. The organisation provided a paper highlighting the relevance of ICT tools and a modern ICT infrastructure in facilitating a comprehensive approach to sustainability and its governance at local and regional levels.

### **3. CONCLUSIONS**

The dual role of ICTs in the climate-change debate – in producing and reducing carbon emissions – is now widely understood. In view of its increasing penetration into all aspects of the economy, it is clear that collective action by the ICT sector itself will be needed to keep its energy and carbon footprint under control.

It is now also widely understood that until the ICT sector agrees on common approaches to measuring and reporting the energy and environmental performance of ICT solutions, the real benefits of ICTs cannot be quantified, and claims and targets are meaningless.

There is a growing support among public sector bodies and, more predictably, by most of the ICT sector for local smart-grids initiatives and for the larger concept of smart-cities which is a more comprehensive strategy for the transition towards greater sustainability centred around ICT infrastructures and applications.

These are viewed as useful instruments, both politically and practically, to put local communities on the path to sustainability and recovery starting with the first milestone: contributing as a local community to achieving the 2020 targets.

They are promising, but still evolving concepts, which need to be framed in the context of an integrated approach to ICT policy and investment in ICT infrastructures addressing both the need to decouple the benefit of ICT from its contribution to emissions and energy use (known as *dematerialization*), and the need to ensure that the solutions adopted by cities contribute to maximising the benefits of ICT applications within the context of their sustainability objectives (a systemic approach).

The potential for successful comprehensive approaches to become showcases for a growing demand from local authorities worldwide is important as this will ultimately benefit all stakeholders including the ICT sector. The broadband focus of the recovery policy enhances the relevance of such approaches today.

A Commission Recommendation that addresses these issues and that, at the same time, promotes the use of ICTs by regional and local authorities in the governance of sustainability would be timely. It is probable that if Europe doesn't take the lead, others will.

## ANNEX 1 – Respondents self- identified as Associations

Sector	Organisation	About...
Buildings and constructions	AIE-European Association of Electrical Contractors	the AIE represents 175.000 companies that design, install and maintain intelligent electrical systems for all kinds of domestic, commercial and industrial purposes.
	Assistal	National Category Association of Mechanical, Electrical and Telecommunication Contractors – 1200 members, 22.000 Employs, more than 5 mil.di euros of turnover
	Electrical Contractor's Association (ECA)	Electrical Contractors' Association (ECA) has over 3,000 members working on the design and installation of electro technical services including ICT within the UK .
	Federation of European Heating and A/C Ass. REHVA	Federation of European Heating and Air-conditioning Associations represents over 100 000 experts in building design <a href="http://www.rehva.eu">www.rehva.eu</a> , European journal of HVAC-technology <a href="http://www.rehvajournal.com">www.rehvajournal.com</a> .
	FENIE	We represent about 16.500 companies of Electrical Contractor and Telecommunications, ICT companies, with 100.000 employees.
	NELFO	
	ESMIG – European Smart Metering Industry Group	ESMIG aims to deliver the maximum environmental and societal benefits of Smart Metering through an adequate use of the available technology and a consistent roll out across Europe.
Energy	T&D Europe	T&D EUROPE is the European association of the electricity transmission and distribution equipment and services industry.
	Voka	Largest business organization in Flanders and one of the three regional business organizations in Belgium
	ARTEMISIA Association	
ICT components	FiCom	Finnish Federation for Communications and Teleinformatics
ICT services	Global eSustainability Initiative (GeSI)	GeSI ( <a href="http://www.gesi.org">www.gesi.org</a> ) is an international strategic partnership of ICT companies and industry associations committed to sustainable development.
	OASIS Open	OASIS is a not-for-profit consortium that drives the development, convergence and adoption of open standards for the global information society.
	ZVEI	
	DIGITALEUROPE	DIGITALEUROPE is composed of 61 multinational companies and 40 NTAs from 28 countries. It represents over 10,000 companies in Europe with more than 2 mil employees and over €1,000 bil in revenues
Manufacturing	European Metalworkers	

	Federation	
	TechAmerica Europe	Formerly known as AeA Europe, we are a not-for-profit association of high tech companies of American parentage doing business of more than €100 billion in Europe and employing over 500,000 Europeans.
<b>Other category</b>	AmCham EU	AmCham EU speaks for American business committed to Europe on trade, investment and competitiveness issues.
	DIHK e.V.Deutscher Industrie- und Handelskammertagung	DIHK ist the central organisation for 80 Chambers of Industry and Commerce in Germany. Most of German companies are required by aw to join a chamber.
	EUROCHAMBRES	EUROCHAMBRES represents 45 national Chamber associations, a European network of 2000 regional/local Chambers of Commerce and Industry with over 18 million member enterprises of all sectors and sizes.
	EUROCITIES	EUROCITIES is the network of major European cities. Founded in 1986, the network brings together the local governments of over 130 large cities in some 34 European countries.
	Intergraf a.i.s.b.l.	Intergraf represents the graphic industry in Europe
	BASDA	BASDA is a member-driven not-for-profit organisation where members benefit by sharing knowledge and expertise and working effectively as one voice to address strategic issues
<b>Software</b>	ETSI	The European Telecommunications Standards Institute (ETSI) produces globally-applicable standards for Information and Communications Technologies (ICT).
<b>Telecommunications</b>	GSM Association	Global trade association for the wireless industry.
<b>Transport</b>	ACEA	<a href="http://www.acea.be">www.acea.be</a>

## ANNEX 2

### Replies by the Energy and ICT sector respondents to an optional open question: "SMART METERING - WHAT ROLE FOR THE ICT SECTOR ?"

SECTOR	TYPE OF ORGANISATION	SMART METERS –ROLE OF THE ICT SECTOR <i>(optional comments)</i>
Energy	Association	Be part of the decision process since from the beginning. All actors need to find a common answer to the question of how to handle which data within which constraints to make a better job at reasonable cost.
Energy	Association	Development of a standard, open, modular architecture for Smart Meters
Energy	Association	ICT should provide the basic technologies and business process know-how independently of any specific roll out schedule. Stakeholder requirements have to be considered and possibly integrated in order to generate the desired benefits that stem from a European-wide roll-out of Smart Metering.
Energy	Government	Development of cheaper and more powerful smart meters and other devices for management and monitoring, in the context of smart grids
Energy	Government	ICT could help through the availability of standardised open source software, and energy use optimisation software which could control building energy use through feedback from the meter (instantaneous consumption and actual tariff)
Energy	Large Private company	Four actors (data management experts, T&D players, IT integrators and Telecommunication suppliers) need to find a common answer to the question of how to handle which data within which constraints to make a better job at reasonable cost
Energy	Large Private company	ICT is playing an increasingly important role worldwide in saving energy & climate-specific problems. ICT Industry is making more and more efforts to dramatically cut ICT-based energy consumption and harness the huge potential offered by ICT to optimize energy systems.
Energy	Large Private company	ICT is the information provider. This has to be standardized.

Energy	Large Private company	ICT should provide the basic technologies and business process know-how independently of any specific roll out schedule. Stakeholder requirements have to be considered and possibly integrated in order to generate the desired benefits that stem from a European-wide roll-out of Smart Metering.
Energy	Large Private company	Systems issues and ensuring platform can be used by all players
Energy	Large Private company	The role of ICT in the context of Smart Metering is to provide basic technologies, methods and business process know-how, this has been and should be independent of any specific roll out schedule.
Energy	Large Private company	There should be no ICT pre-requisite prior to roll-out. E.g. Existing GPRS can be sufficient to read & send TOU or mobile peak tariffs to the meters. A one-way communication from the meter to the appliances is then sufficient to achieve energy savings.
Energy	Large Private company	To provide standardized, cheap and reliable means of in-house communication and control of electric devices
Energy	Other category	Information for consumer and supplier, communication machine to machine and automation, remote control, failure detection and alert, user friendliness
Energy	Other category	The ICT sector primary role should be to empower the energy end-user to manage their energy use.
Energy	Private consultant/Advisor	Data collection elaboration and computing Presentation to end user
Energy	Private consultant/Advisor	Direct evaluation, inspection
Energy	Private consultant/Advisor	ICT sector will develop and supply the smart-meter technology. Interdisciplinary teams between ICT and energy experts need to be created for the development of the technology
Energy	Private consultant/Advisor	Standardisation must be set BEFORE rolling this out. Important is also interoperability. Otherwise this will not work-
Energy	Private consultant/Advisor	The case for smart meters has not been proven. If the objective is to reduce energy usage there are other far less costly approaches
Energy	Research and	Cost-effective communication and control

	education	module
Energy	Research and education	ICT sector should improve costs and accessibility to end-users
Energy	Research and education	Make the process easier
Energy	Research and education	Privacy and Data Security issued should be cleared first. Do individual customers accept their "life"-profiles being available to their utility?
Energy	Research and education	There is a strong lobbying action to push Smart meters. These ARE NOT – per se – an Energy Efficient technology but COULD bring to INDIRECT benefits that need still to be demonstrated
Energy	SME	Contribution to remove all barriers for a free market. Information circulate with the same quality and consistency for suppliers and consumers.
ICT components	Large Private company	Detailed answer to be submitted in a separate e-mail.
ICT components	Large Private company	They should develop affordable smart meters that provide usage information in an understandable way to the average household user. Usability testing and usability assessments should be a mandatory part of this development effort
ICT components	Public body	Development of standard protocols and interfaces
ICT components	SME	Drive the adoption of well adopted ICT technologies for communications from smart meters. Avoid creation of new telecommunications protocols that may close this new market and reinforce the position of existing monopoly.
ICT services	Association	ICT is a key enabler for a range of functions and services of smart grids, including smart metering, but also online collection of customer data, distribution automation, real time management to cope with the increase of renewables and other energy sources, added services to the customers etc.
ICT services	Association	Smart meters are not smart. They are controlled by the utilities. It is time to empower the consumer a la Google powermeter.
ICT services	Government	Interpretation of data from smart meters is key – developing a user-friendly way of

		monitoring usage will increase the benefits. E.g. An automatic web-based link which will produce reports that can be browsed/emailed to customers' accounts
ICT services	Government	Providing a reliable and simple to use communication infrastructure. Using fixed and wireless, static and adhoc networks and federations of networks, as well flat solutions enabled by the use of ipv6.
ICT services	Government	The ICT sector could promote the benefits of smart meters to their customers
ICT services	Large Private company	1. Development of strategic alliances with electricity companies and industry associations to massively deploy smart metering technology and estimate the demand for smart meters and guarantee their final distribution. 2. Measure and communicate benefits.
ICT services	Large Private company	Develop related services Ensure availability of data and capacity to interpret the information Facilitate harmonization and accelerate deployment
ICT services	Large Private company	Enable a fast low cost data exchange and building the platform for new services
ICT services	Large Private company	Engagement in a 'model office' type implementation, in addition to being an integral part of the strategy.
ICT services	Large Private company	ICT sector should open optimal possibilities at a reasonable price. ICT sector should help by piloting, helping overcome problems and fears as privacy.
ICT services	Large Private company	Modernizing the EU's electricity grid has the potential to dramatically impact the way in which localities and consumers receive and utilize energy. Motorola is partnering the energy industry to bring the intelligent grid to reality.
ICT services	Large Private company	Role of the ICT sector is to partner with the device manufacturers, other electrical grid technology suppliers and utilities to agree on interoperability standards and the development of business models that will enable large scale replication and scaling of the solutions available.
ICT services	Large Private company	The ICT community has an essential role to play in implementing the system that will provide information to consumers in the right format at the right time via the right medium

		for the individual.
ICT services	Large Private company	The ICT sector should be closely involved in the definition/implementation phases of smart metering to ensure technical consistency and maximum impact at the end-used level.
ICT services	Other category	Normalisation
ICT services	Other category	The ICT sector can develop products to measure energy efficiency and provide the basis for common measuring standards that help companies to make better investment decisions and consumers to choose energy operators.
ICT services	Private consultant/Advisor	ICT sector should develop simple, open-sourced based solutions which consumers can use on existing (dumb) meters and with which they can control/monitor energy usage via the internet/on their own computers.
ICT services	Private consultant/Advisor	Industries, big energy providers, for pilot testing (as envisaged in the CIP-PSP programme)
ICT services	Private consultant/Advisor	Provision of new services which are independent of suppliers, including mash-ups
ICT services	Research and education	Better metering, better and more accurate handling of different demands taking into account a better understanding of existing data.
ICT services	Research and education	Contribute to standardisation work , to methodology , to evaluation process
ICT services	Research and education	Showing the importance of smart meters on saving energy procedures
ICT services	Research and education	The role should be a facilitating one aiming to reduce the overall cost of deployment and management.
ICT services	Research and education	To make them cheaper, faster and more reliable
ICT services	Research and education	To provide new paradigms for users participation in the energy market defining standard interfaces for smart community services deployment.
ICT services	SME	Definition of easy to access interfaces and web services to get and post data
Manufacturing	Association	Smart metering (energy monitoring by the customer) important; energy companies certain to oppose because they do not stand to gain (two-way meter reading). Development

		of service production.
Manufacturing	Large Private company	Not enough space for explanation. Please see separate submission
Manufacturing	Large Private company	The ICT sector should play a supportive role and foster quick and global harmonization and standardization of communication technologies and protocols.
Manufacturing	Private consultant/Advisor	In the short term offer the service in the simplest possible way to encourage utilization (automation and information, focus in heating). In the medium term more sophisticated applications (ill have the "good will" to convince the transiti to a stronger users' involvement.
Manufacturing	Research and education	Assuring the issues visibility (according to the official metrics)
Software	Association	It should agree on standards and interfaces as to how this metering is going to interact with the applications that will collect, analyse and deliver the information.
Software	Large Private company	– The ICT sector should play an important role in cooperation with utilities, device manufacturers and consumer groups in the development of standards for communications protocols (data formatting), measurement and reporting requirements.
Software	Large Private company	Enabling the monitor capability and addressing best practices
Software	Large Private company	Yes and standards should be technology-neutral and allow a full range of solutions. Encourage important privacy and security policy implications built closely with companies, privacy advocates to ensure these are addressed thoughtfully
Software	Public body	The role of ICT: security, reliability etc. What is missing in my opinion, is that the complexity of system dynamics should be mastered regarding two aspects: autonomous control and easy-to-use user interfaces. In my view, technology from machine learning should be applied to reach this goal.
Software	Research and education	Define requirements and interoperability standards; collaborate to the implementation
Software	SME	An interface between consumers and producers
Software	SME	Design, develop open standards to connect the several systems within an infrastructure

		oriented soft- and hardware interfaces.
Telecommunications	Association	Standardising the equipment and data channels prior to rollout.
Telecommunications	Government	– Provide expertise in managing multi-layer and multi-service networks – Provide technology – Be an active driver of change
Telecommunications	Large Private company	ICT are very important to found new solution and to offer solution in smart meters.
Telecommunications	Large Private company	Smart meters and smart grid are useful tools helping to meet environmental goals. The ICT sector has an important role to play in standardization and there should be collaboration between ICT standardization bodies and electricity standardization bodies.
Telecommunications	Large Private company	The ICT sector can contribute with innovative solutions for direct energy savings in the networks and end-devices and also to provide value-added services. Standardisation is a key determining factor to ensure interoperability.
Telecommunications	Large Private company	The ICT sector will be critical in the operation of the communications infrastructure of smart meters, in the handling and storage of data (usage and billing), in the control of appliances and the display of information to consumers.
Telecommunications	Other category	ICT sector should develop reference scenarios showing what can be done and how can it be done
Telecommunications	Research and education	However, the smart meter is a consumer appliance, that should be bought voluntarily (at a shop) by the customer and coupled to his internet connection to a service provider, which is not necessarily the producer/seller of energy.
Telecommunications	Research and education	Standardisation transmission of data
Telecommunications	Research and education	Telecommunication service providers and equipment vendors should be incentivised to reduce emissions and invest in self energy generation. The latter should also enable excess energy to be fed back into the grids.
Telecommunications	Research and education	We need a method to incorporate smart meters into the cellular network, such that the meters can be connected to the web wherever they are. Current GSM/3G cannot incorporate metering data efficiently. LTE also not.

Telecommunications	SME	The ICT sector should assist the energy sector in developing totally new business models for providing “internet related” services to the consumer making use of the new bi-directional path to the consumers’ home.
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