



**EUROPEAN COMMISSION**  
DIRECTORATE-GENERAL FOR ENERGY AND TRANSPORT  
DIRECTORATE B - Security of supply and energy markets  
**The Director**

Brussels, 01.03.2010

**TO THE MEMBERS OF THE TASK FORCE FOR SMART GRIDS**

**Subject: Meeting minutes from the 3<sup>rd</sup> meeting of the Steering Committee of the Task Force for Smart Grids**

The third meeting of the Steering Committee of the Task Force on Smart Grids took place in Brussels on 01 March 2010.

**Main conclusions:**

1. The three Expert Groups presented their progress reports and work plans so that they will produce a final document in mid May 2010. The composition of each Group has now been finalised and the main tasks have been agree upon.
2. There were calls for increased cooperation so as to exploit the synergies between the Expert Groups,. To help achieve this, a coordination meeting with the Expert Group chairmen will be organised by the Commission during March 2010.
3. Next Steering Committee meeting set for 21 April 2010.

## **1. Approval of the agenda for the 3<sup>rd</sup> meeting**

The agenda was adopted as proposed (Annex 1).

The Commission welcomed three new members to the Steering Committee:

- **Mr. Joaquín Mendiluce Villanueva**, who represents EUROGAS. He is the Chairman of the committee of Gas Distributors. He works in Gas Natural, Spain.
- **Dr. Fiona Riddoch**. Managing Director COGEN, European Trade Association for the Promotion of Cogeneration.
- **Mr. Walter Weigel**, General Director at the European Telecommunication Standard Institute (ETSI).

The list of members has been updated to include:

- **Mr. Levi Nietvelt**, who represents BEUC.
- **Mr. Frigyes Reisc**, who has been nominated as delegate of ANEC.

An updated list of the members of the Steering Committee is attached at Annex 2

## **2. Approval of the minutes of the 2<sup>nd</sup> meeting and**

The minutes of the 2<sup>nd</sup> meeting were drafted and circulated by the Commission on 18 December. They were formally approved at the meeting by all participants and are attached as Annex 3.

## **3. Adoption of the Work Programme**

The initial version of the Work Programme was discussed at the Steering Committee meeting in December. The Commission informed the Steering Committee that written comments were received in January, mainly from:

- **BEUC who** provided specific written comments in relation with consumer rights and data protection issues.
- **COGEN who** commented on the relevance of energy efficiency in the text.
- **ENTSO who** suggested a new Chapter (Chapter 5 in the revised document) on the large-scale integration of renewable generation while supporting power system security.

The information received has been extremely useful to the Commission. The composition and chairmanship of the Expert Groups have also been revised according to reflect the Expert Groups' members that were nominated in January.

The new version, which is attached at Annex 4, was adopted unanimously by the members of the Steering Committee at the meeting.

#### **4. Progress report of individual Expert Groups**

The Chairman of each group presented the outcomes of the Expert Groups first meetings, outlining the work plan and next steps leading to the adoption of final document in mid May 2010. The power point presentations are attached at Annexes 5 to 7.

Mr. Doulet (DSO Club), chairman of the Expert Group 1 presented the discussion within the group on the minimum requirements and typical level of services that the Smart Grids are to provide for different categories of users. There was a general agreement that duplication of work should be avoided and previous work on the definition of expected services and functionalities needs to be taken into account in the Expert Group's work. Two subgroups were created within the Expert Group; the first should provide relevant information on the state of the art and the second on the services and functionalities of Smart Grids. From the smart metering point of view, the group agreed to focus primarily on electricity, limiting the discussions on gas to further steps. Next meetings of the group are scheduled for 2 of March and 15 April 2010.

Mr. Hyldmar (ESMIG), chairman of the Expert Group 2 considering at data safety, data protection and data handling briefly presented the progress achieved so far. The kick-off meeting of the group took place during the last week of February. The next meeting is scheduled for mid March. Seven subgroups were created within the Expert Group. Data ownership, (de)centralisation of data, transmission technologies, cyber security, detection of risks, frequency of data transmission have been among the issues discussed within the group so far.

Dr. Kapitanovic (ERGEG) presented the preliminary outcomes of the Expert Group 3 on the roles and responsibilities of the involved actors as well as with the definition of funding criteria and recommendations for Smart Grids deployment. Dr. Kapitanovic welcomed the composition of the group granting good level of representativeness.

#### **General discussion**

Members agreed that standardisation will be a considerable challenge. The Commission noted that discussion with CENELEC and ETSI in this regard have already taken place. Next meeting with them is scheduled by 8 March.

Establishing clear role for all categories of market participant (for example, households, industrial, and cogeneration) is another important task.

Participants agreed that definition of the functionalities must start with the definition of categories of users and then desired (level of) services. Defining a basic set of requirements on the services is important for the development of internal market.

Participants called for coordination between the Expert Groups, especially between the Expert Group 1 and 3. A meeting/videoconference will be organised by the Commission with the chairmen of the groups before the end of March.

Draft deliverables from each group will be provided for the next meeting of the Steering Committee that will take place on 21 April

## **5. Any other business**

Jorge Vasconcelos informed the meeting about DG INFSO's recent conference on the ICT for Energy Efficiency that was held on 24 and 24 February in Brussels. Mr Vasconcelos chaired a session at the conference on Smart Metering Case Studies. The main conclusions of the session were: 1) The 20-20-20 objectives cannot be met without implementation of the Smart Grids, 2) From the technical point of view, the Smart Grid is relatively easy to implement and the move towards digitalisation of the electricity grid has already started, 3) Cooperation between ICT companies and energy companies will (need to) increase in the future. The workshop also concluded that the optimal development model is to have open standards.

The BEUC distributed a non-paper on Smart meters and Smart grids – the consumer perspective. The non-paper reinforced the need to put the consumer at the heart of policy development on Smart Meters and Smart Grids. In particular, the paper noted that the Expert Groups should ensure that consumers' expectations on the functionalities of Smart Meters and Smart Grids are met.

### **Next meeting**

Next meeting is taking place in Brussels on the 21 April 2010. During the meeting the chairman of each Expert Group will give an oral presentation of the main deliverables that will form the basis of the final report from each group.

**Manuel SANCHEZ JIMENEZ, ☎ 02 2992063**  
**Kristian TAKAC, ☎ 02 2952303**  
**Anthony DOHERTY, ☎ 02 2959660**

**Agenda**

**Task Force Smart Grids  
3rd Steering Committee meeting**

**Monday 1 March 2010, from 14:30-17:30**

**European Commission, DG INFSO  
Avenue de Beaulieu 33,  
Room BU33- 0/54  
1160 Brussels**

1. **Adoption of the agenda for the 3<sup>rd</sup> SC meeting of the Task Force**
2. **Adoption of the minutes of the 2<sup>nd</sup> SC meeting**
3. **Adoption of the Work Programme**
4. **Composition, work plan, progress and deliverables of the Expert Groups (EGs).  
Presentation by EG Chairmen**
  - **EG1: Functionalities for Smart Grids, by Mr. Alain Doulet (DSO club)**
  - **EG2: Regulatory recommendations for data safety, data handling and data protection, by Mr. Frank Hylmar (ESMIG)**
  - **EG3: Roles and responsibilities of actors involved in the Smart Grids deployment, by Mr. Tahir Kapetanivich (ERGEG).**
5. **Any other business**

## Steering Committee Members (+)

Name	Position	Email
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(+) Relevant Commission services (ENTR, INFOS, JLS, RTD, SANCO as well as TREN Dir. H and Dir. D) will be invited to participate in the Steering Committee meetings.



**EUROPEAN COMMISSION**  
DIRECTORATE-GENERAL FOR ENERGY AND TRANSPORT  
DIRECTORATE C - Security of supply and energy markets  
**The Director**

Brussels, 16.12.2009

**TO THE MEMBERS OF STEERING COMMITTEE  
OF THE TASK FORCE FOR SMART GRIDS**

**Subject: Minutes of the 2<sup>nd</sup> meeting of the Steering Committee of the Task Force for Smart Grids**

The second meeting of the Steering Committee of the Task Force on smart grids took place on 16 November 2009 in Brussels. The Steering Committee will guide the work of the Task Force and consists of representatives of the Commission, ERGEG, market stakeholders, industry associations and organisations representing the consumers. The list of participants is in Annex 1.

**Main conclusions:**

1. The Steering Committee has approved the MISSION for the Task Force.
2. Participants agreed on the draft Work Programme proposed by the Commission as the starting point to launch the Expert Groups (EGs) in January 2010. They were invited to send their final comments to the Commission before 08.01.2010.
3. The Steering Committee adopted the tasks proposed for the three Expert Groups and agreed on the chairmanship for each group. DSO Club is to chair the EG 1 (Functionalities for Smart Grids and Meters), ESMIG was chosen as the chair for EG 2 (Regulatory recommendations for data safety, data handling and data protection) and ERGEG is to head WG 3 (Roles and responsibilities of actors involved in Smart Grids deployment). Detailed composition and the name of each EG chairman should be communicated to the Commission before 08.01.2010.
4. The next Steering Committee meeting was set to take place in Brussels on 01.03.2010, starting at 14:30. Following meetings will take place in Brussels on 21.04.2010 and 22.06.2010, starting at 14:30.

## **6. Approval of the agenda for the 2<sup>nd</sup> SC meeting of the Task Force**

The Commission introduced the three new members of the Steering Committee:

- Mr. Paolo Falcioni. Vice Director General CECED, European Committee of Domestic Equipment Manufacturers.
- Mr. Patrick Clerens. Secretary General EPPSA, Power Plant Suppliers. Association
- Mr. Martin Spät. Director ESIA, European Semiconductor Industry Association.

All the participants welcomed them as new members of the Steering Committee.

The present composition of the Steering Committee has been updated accordingly (see Annex 2).

## **7. Approval of the minutes of the 1<sup>st</sup> meeting and Mission for the Task Force**

The minutes of the 1<sup>st</sup> Steering Committee meeting were accepted by all the participants. BEUC's delegate will propose, no later than 08.01.2010, an additional remark related to transparency of costs.

The revised version of the Mission for the Task Force was adopted by all the participants (see Annex 3).

## **8. Adoption of the Work Programme and composition of the Expert Groups**

### **3.1. Adoption of the Work Programme**

The participants welcomed the draft Work Programme proposed by the Commission and expressed their full support to the overall approach and distribution of the work into the three Expert Groups (EGs). The Commission stated that it would accept further comments and remarks, but no later than 08.01.2010.

There was a short discussion on the scope of the Task Force and the difference between Smart Meters and Smart Grids re-emerged. There seems to be a broad understanding that while the Smart Meters are one of the underlying elements for the Smart Grid development, the ultimate task of the Task Force is to create regulatory framework for the Smart Grids.

Participants asked for inclusion of the "optimisation aspects of the electricity generation" among the list of expected services of Smart Grid.

Certain participants expressed concerns about possible overlaps of this list with the performance indicators proposed in the Position Paper on Smart Grids currently developed by the ERGEG. However, ERGEG stated that it is comfortable with the discussion and sees minimal risks of overlap. The Position Paper is now being in the process of public consultation and the final outcomes are not yet available. The discussion on the ERGEG's Position Paper could therefore neatly fit into the overall discussion at the level of the Expert Groups as well as at the level of the Steering Committee.

Organisations representing the consumers urged the Commission to include a reference to vulnerable consumers in the Work Programme.

Stakeholders underlined the need to communicate the work and the results of the Expert Groups and the Task Force to the broader public, including the European Parliament. It was suggested to invite either the chairmen or vice-chairmen of relevant EP committees to one of the meetings and possibly also invite future DG Energy commissioner to a meeting. The Commission agreed that it would facilitate the communication process of expected results of the Task Force, but reminded that the Task Force should advise the Commission and deliver high quality material and results. It was agreed that any communication approach and targeted audience should be discussed once concrete results are available.

### **3.2. Composition of the Expert Groups**

The Commission initiated the debate on the composition of the EGs, offering a flexible approach to the suggestions of the participants. Stakeholders were offered extra time to submit their interest to participate in individual EG. Requests should be submitted before 08.01.2010.

There was a full and open discussion on the chairmanship of the EGs. Impartiality and expertise were quoted as the main predispositions for the chairmanship. The Commission assured its continuous presence in all three EGs and contribute to the work as well as guarantee transparency in the decision process inside each group.

DSO Club was chosen as the chairman for the EG on *Functionalities of Smart Grids and Meters*. The participants agreed that at the end of the day, it will be the network operators who share the main (administrative and financial) burden to implement the Smart Grids and roll-out of the Smart Meters.

ESMIG will be chairing the EG on *Regulatory recommendations for data safety, data handling and data protection*. Stakeholders representing the consumer organisations expressed concerns about this choice with regard to impartiality. The Commission reminded that the DG JLS and DG SANCO will actively participate in this EG; the Commission expects that consumer organisations play also an active role in this EG.

ERGEG is to head the EG defining the *Roles and responsibilities of actors involved in the Smart Grids deployment*. There were no objections as to this outcome.

The Commission underlined the need of the EG chairmen to be impartial, driving the work of the EG forward and presenting the results in a timely manner. Some of the stakeholders asked for the needs of agreeing on uniform set of procedures and documents so that EG activities are more or less coordinated and comparable. It was agreed that the chairmen should stimulate, coordinate and agree with the experts in his group the procedures and the implementation of the work. The Steering Committee should follow the building process and results of the three groups and limit its intervention to critical cases only.

Participants were called upon to identify the EG in which to participate and send to the Commission the details of their participation before 08.01.2010 (e.g. name of expert, full address, position in his/her organisation and short description of the expertise

accumulated). Likewise, the name of each EG-chairman should be send to the Commission before 08.01.2010.

Each EG should meet during January 2010 to agree on the tasks and the relevant work plan. Its is expected that the three EGs will be effectively launched before the end of January 2010.

## **9. Next SC meetings**

The dates for the next meetings of the Steering Committee of the Task Force were set as:

- 1 March,
- 21 April and
- 22 June 2010.

These meetings will be held in Brussels, starting at 14:30.

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**Anthony DOHERTY, ☎ 02 2959660**

# **Task Force Smart Grids – vision and work programme**

Approved by the SC on 1<sup>st</sup> March 2010

## **1. Introduction**

The evolution of the electricity grid is the key challenge for Europe's electricity networks. We must strive to achieve networks that can underpin our goal of resilient, sustainable, competitive energy markets that deliver real benefits for consumers. Smart Grids play a vital role in this context. Smart Grids through using new and existing technology can transform the way in which electricity is produced, transmitted and consumed.

The roll out of Smart Metering has already been supported in the new electricity and gas internal market directives<sup>1</sup>, which were adopted in July 2009. Its energy efficiency related functions have specifically been recognised and are promoted in the Directive on energy end-use efficiency and energy services<sup>2</sup>. The promotion of Smart Grids is also encouraged as part of the internal market directives in addition to support for intelligent networks in the renewables directive<sup>3</sup>. In some of the Member States steps towards the implementation of Smart Grid technology has already reached an advanced stage and several Member States have adopted binding targets for the implementation of Smart Metering.

It is therefore of crucial importance that barriers to the deployment of Smart Grids are identified and addressed. Tackling the existing barriers to the roll out of Smart Meters and Smart Grids (such as the total cost and financial concerns, consumer engagement, technical uncertainties, data protection issues, and standardisation and minimum requirements on functionality) at the EU level will be more effective than consideration solely at nation levels.

To facilitate and support the process of an EU-wide Smart Grid implementation, the European Commission decided to set up a Task Force on Smart Grids. In November 2009, the Commission invited all relevant institutional actors and market stakeholders to the first Steering Committee meeting. The Steering Committee agreed to establish three Expert Groups who will jointly develop a common vision for the implementation of the Smart Grids in Europe and identify regulatory recommendations and key issues that need to be resolved.

## **2. Goal of the Work Programme**

The Third Energy Package provides the appropriate collaborative environment for the implementation of Smart Grids and roll out of smart meters across Europe. The Task Force Smart Grids is designed to provide a joint regulatory, technological and commercial vision on Smart Grids taking into account accumulated experiences worldwide and the

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<sup>1</sup> Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC - OJ L 211/55, 14.8.2009; and Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC - OJ L 221/94, 14.8.2009.

<sup>2</sup> Directive 2006/32/EC of the European Parliament and of the Council on energy end-use efficiency and energy services and repealing Council Directive 93/76/EEC, OJ L 114, 27.4.2006.

<sup>3</sup> Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.

technological challenges to be faced mainly during next decade/s, so as to coordinate the first steps towards the implementation of Smart Grids under the provision of the Third Energy Package.

The challenge ahead for the Task Force is to jointly agree among the regulatory authorities, regulated companies and end users on key issues such as the estimated cost/benefits, the associated risks and the incentives needed.

**The ultimate goal of this Work Programme is to identify and produce a set of regulatory recommendations to ensure EU-wide consistent, cost-effective, efficient and fair implementation of Smart Grids, while achieving the expected Smart Grids' services and benefits for the network users.**

The expected recommendations to be developed by the Expert Groups described below should be based on an analysis of both the market activities that need regulation and the interfaces that need harmonisation. No rules should limit or choose technology. Recommendations should focus on non-exclusivity of technology or of parties in order to ensure competition, transparency and flexibility.

### **3. Expected services and functionalities of Smart Grids**

The work and initiatives on Smart Grid have been growing in number, participants and scope during the last few years in Europe and worldwide but, in spite of that, there is not yet one internationally accepted definition of Smart Grids. From a regulatory point of view, a definition or an understanding of the concept of Smart Grids should be based upon the needs for them, i.e. what services they are intended to offer and what kind of functions and output values they can provide for the users of the transmission and distribution grids.

Smart Grids refers to a future grid that is needed for reaching efficiently the EU Energy and Climate Change targets for the year 2020. There is a global recognition of the services and benefits towards the implementation of Smart Grids for all actors involved in a lower-carbon internal market. For the purpose of the Task Force, they can be broken down into the following list of topics:

- Sustainability and network adequacy at any time, in order to satisfy the needs and demand of grid customers (generators and consumers) via consumer engagement and demand side management
- Provide consumers with greater information about their energy consumption, allow access to a wider choice of supply options and empower consumers to reduce and actively manage their energy consumption where appropriate
- Support the delivery of energy services for consumers
- Active and effective network connection conditions for all grid customers and suppliers
- Maintaining security and quality of supply
- Providing all necessary network services in support of security and reliability of the network, such as adequate short-circuit power and impedances at the point of grid connection, efficient and reliable alarm and fault management for self-healing procedures in the distribution networks, bi-directional protection concepts for distributed generation.

- Effective and efficient support of all aspects of the electricity market, such as optimising generation and efficient supply transmission and distribution of energy and facilitating maximum contribution from intermittent sources,
- Coordinated transmission and distribution network development
- Continuous improvements and development of the electricity networks operation and planning practice based on advance Information and Communication Technologies.

**Based on these expected services, initial efforts in this Work Plan will be devoted to set up the functionalities for Smart Grids, taking into account:**

- **Further to the initial description given in the MISSION paper, a more elaborated description of the envisaged Smart Grids' functionalities and expected services are needed as a reference for further work foreseen under the Expert Groups described below.**
- **Expected Smart Grids' functionalities and services should be formulated at a sufficiently high level to permit flexibility, innovation and competition where this delivers benefits for consumers and citizens. Care must be taken to ensure that developments do not inadvertently hinder competition or result in consumer detriment.**
- **They should be "grid user oriented", e.g. what functions and services to all network users make the grid smart and cover the tasks needed to enable the smartness of the grid.**

#### **4. Empowering consumers**

Consumer empowerment includes capabilities of consumers to have sufficient and timely information on their actual energy consumption, to learn and act upon their energy savings potential through energy usage optimisation and more energy efficient technologies, to have access to competitive offers for energy services and to develop energy efficient consumption practices.

The implementation of more active transmission and distribution systems through the deployment of Smart Grids is central to the future development of the internal market for energy. Consumer empowerment and the engagement of energy market participants through the use of new technology will contribute towards a paradigm shift in the operation of internal energy market. Smart grids can be a useful tool in enabling consumers to take action to more effectively manage their energy consumption but must sit within a wider strategy to decarbonise the energy market. To be successful, the use of new technology must focus on facilitation of consumers' active and effective participation in the market so that they can take full advantage of emerging developments in the internal energy market. Central to this goal will be strategies for consumer engagement and the provision of information, support services and opportunities to consumers.

The expected advanced communications capabilities of Smart Grids will enable many consumers to exploit real-time electricity pricing and become more active players in the internal market for energy. Engagement either actively, through responding to price signals, or passively, through the actions of an aggregating agent, could lead to real benefits for many consumers as they take control over their energy use and therefore their bills.

"Smart" tariffs must be introduced in such a way to ensure that all consumers can benefit from reduced energy bills (if they change their consumption patterns) and so that vulnerable and low income consumers are not adversely affected or disadvantaged. The use of aggregating agents will also drive forward innovation in tariffs, prices and the services that are made available to consumers. There should also be benefits for consumers in the form of more reliable and efficient networks, which would, in particular, benefit the more vulnerable groupings of consumers such as the elderly and infirmed

It is important that all consumers can access these benefits and to explore changes to the use of profiling of consumption to ensure that costs are incurred by those that consume energy and are spread fairly.

Smart Grids create benefits for energy companies in the form of reduced management costs through fewer meter readings and less significant debt handling costs; more efficient network operation and management; and lower fraud. These benefits are relatively easy to realise given that they fall within energy companies' commercial interests.

Capturing the benefits for consumers will require involvement of the bodies responsible for the protection of consumer interests including governments, regulators and consumer bodies. The engagement and education of the consumer is a key task in the process as there will be fundamental changes to the energy retail market. To deliver the wider goals of energy efficiency and security of supply there will need to be a significant change in the nature of customers' energy consumption. Central to this task will be the privacy and ownership of the new consumer data created through Smart Meters and Smart Grids. Consumers must feel secure that the confidentiality of their consumption data is respected by all market participants. They must also have free access to their historic consumption data in order to maximise their engagement in the market and make well informed switching decisions. A lack of consumer confidence or choice in the new systems will result in a failure to capture all of the potential benefits of Smart Meters and Smart Grids.

**The Work Programme should further elaborate the following tasks dealing with consumers:**

- What does active participation and consumer empowerment mean for consumers and other players? How can regulators, network operators and other industry players best engage with consumers to ensure uptake of new technology and behaviour change?**
- How can it be ensured that consumers can engage effectively and confidently in the smart energy retail market? How to maximise consumer engagement with Smart Grids?**
- How is electricity data different from other data? How to best protect consumers and their data? What mechanisms are available for the protection of vulnerable and low income consumers?**
- How to best inform consumers of the benefits of Smart Grids in order that they make best use of technologies to reduce their where appropriate.**
- How to best ensure that consumers realise all the possible benefits including the cost saving and energy consumption reduction from the introduction of Smart Grids?**

## 5. Supporting power system security

The EU energy and climate change targets for the year 2020 induce new **grid challenges** for the European network operators. Particularly, transmission system operators in the European Union will have to be extremely proactive in order to set, in the European power system, the conditions for accomplishing these targets.

The integration of very large amounts of intermittent renewable energy sources, the consideration of a significant part of the load as active demand, becoming a new resource for the system security (even though this resource should be managed based on market mechanisms), as well as the further development of the European energy market and the related cross-border power exchanges, will contribute to rising uncertainty and related system security risks, thus potentially stressing the transmission network.

New Smart Grids concepts (network devices and operational criteria) must play a fundamental role to qualify the power system for managing the new scenario keeping the current security and quality of supply standards.

**The Work Programme should further elaborate the following tasks dealing with the system security:**

- **How will Smart Grids concepts applied to new network architectures improve the system capacity for integrating intermittent and distributed power generation?**
- **To what extent are Smart Grids technologies going to enhance the existing power system flexibility (both at grid and system operation levels)?**
- **How could renewable energy producers, distributed generation and active demand effectively contribute to the system security?**

## 6. Regulated and competitive markets

We need to realise Smart Grids within the shortest time frame possible at the widest scale possible, without risking the establishment of efficient and effective systems. At the same time we need to ensure that technologies remain compatible and open and that energy efficiency opportunities are exploited. They cannot exclude future competitors, neither now nor in the future, that may provide even better solutions.

European rules need to strike this balance. The rules need to be clear and certain to allow investors to step in. Therefore we need to make choices at this moment on the main characteristics of Smart Grids. As described above, these characteristics must be defined based on the reasons why Smart Grids are needed.

The success of Smart Grids will not just depend on new technology and the willingness of networks to introduce them, it will also depend on best practice regulatory frameworks to support their introduction, addressing market issues, an assessment of impacts on competition, other industry changes (i.e. to industry codes or regulation), attitudinal

changes to the way we use energy and above all a fair, affordable and transparent deal for consumers.

The Task Force needs to focus on the parts of the chain of Smart Grids, in its establishment and in its operations that need regulation in order to meet the goals.

'Smart grid' is an overarching term for many different aspects of the energy supply chain, stretching out into the communications business. Those activities that are based on, dependent on or are related to monopoly activities are the focus of the attention. These can be divided in two categories:

- Physical characteristics of interfaces between monopoly and competitive activities;
- Exchange of information between monopoly activities and competitive activities.

All other categories do not require regulation ex-ante, they only need ex-post control to prevent abuse: any other regulation of such sectors would only limit competition, innovation and investment.

These activities are first of all those of the electricity and gas network operators, namely operating, maintaining and developing the transmission and distribution grids. All activities that depend on or have a relation to the network operators are therefore part of the focus of the task force.

Secondly, these activities may also concern the telecom operators, since they operate networks that are considered a monopoly activity.

Thirdly, these activities may also relate to the metering activity. Although this is not a network operations issue, it is directly linked to the network, and therefore is some MS this is part of the regulated business. The scope for regulation of the metering activity merits special attention to analyse the differences in approach in the EU and the consequences of that for the rest of the smart grid policy.

Based on the analysis of the regulated markets, keeping in mind the identified goals of Smart Grids, the **Task Force has to make recommendations on the definition of the regulated markets, the interactions between the actors, and the interfaces that need to be regulated. This will lead to a recommendation on the roles and responsibilities of the different actors, in particular in relation to the interaction with each other.**

To prepare such work, it is proposed that the task Force:

- Prepares an overview of the regulated markets involved in Smart Grids and an assessment of the possible impacts on competition.
- Prepares an overview and recommendations for the regulation that will be needed to safeguard consumers from retail market and technological/functional changes resulting from Smart Grids.
- Prepares a recommendation for the market regulation and overview of the markets for meters and metering services.
- Prepares an overview of the interactions between all actors involved in the operation of a smart grid.
- Prepares an overview of the interfaces where regulated and competitive markets interact.

- Prepares a recommendation on the policy, regulation, responsibility and control over these interfaces.
- Prepares a recommendation for the policy and responsibility to enable the investment in Smart Grids and for the roll-out of smart meters, including cost-allocation, tariff approval and roll-out plans and responsibilities.
- Prepares a recommendation for the roles and responsibilities of all actors in the supply chain taking into account a well-functioning, open smart grid that meets the goals as defined in chapter 3 above.

## **7. Implementation and coordination of the first steps**

Some of the widely recognised reasons in why large-scale deployment of Smart Grids has not yet happened in the EU are: limited pilot experiences so far, geographic limitation of the 'generic' quantification of benefits achieved in existing experiences and, last but not least, existing uncertainties regarding the individual investments needed for each of the actors involved, including the consumer.

It is also widely recognised in Europe that a widespread rollout of "Smart" is technically possible during the next decade and that well coordinated pilot projects at European-scale during the years ahead could facilitate this deployment; but how the evolution towards the Smart Grids is going to take place in practice is not yet fully clear to all actors involved.

Presently, the network owners and operators in the EU are in a position to initiate the transition towards Smart Grids and are ready to be responsible for most of the investments. As Smart Grids benefit all network users, public sector investment are expected to support such transition. Indeed, public-private partnerships could provide an important role in these first steps, but this requires the support of regulators to provide security for the investments, which will finally depend on the individual cost/benefit balance for each actor involved, and more specifically on the final balance for the consumer, which is uncertain. It is essential that investment is efficient so that any costs passed on to tax payers and energy customers are value for money.

This transition is a complex issue and a single leap from the current network to the Smart Grid's vision is not realistic. It requests better coordination and collaboration among all actors involved in order to find the right cost-effective direction, avoid duplication of work and exploit synergies among them.

Global investment needed for such transition have been estimated. According to the IEA, 1000 b€ will be invested to deploy power networks by 2030 (an average of 45 b€ a year representing a Capex of 11% based on 400 b€ annual turnover of the power sector), 50% spent on generation, and another 50% on transmission and distribution.

Utilities allocate 2% to 6% of their turnover for IT spending (average of 4% when investing intensively in market liberalisation and Smart Grids deployment representing an additional investment of 176 b€ by 2030 to reach 352 b€ of total ICT spending by 2030).

As part of it, the Electricity Grid Initiative under the SET Plan has proposed an integrated TSO/DSO package of RD&D pilot projects with a budget of 1,9 B€ (breakdown: 580 M€

research and 1360 M€ demonstration activities) for the period 2010-2018. The individual investments needed from each actor involved and the ways to pay for these investments are going on. Transparent mechanisms must be put in place to ensure that investment is cost-effective and efficient.

In Europe, Member States may undertake a Cost-Benefit Analysis for the implementation of smart meters during the next decade. Guidance already exists at the European level for cost benefit analyses on infrastructure projects and the assessment of existing projects has been discussed in first to Citizens' Energy Forums. The Commission's interpretative note on Retail Markets and the implementation of the Third Energy Package already gives examples of the benefits that should form part of any analysis undertaken at Member State level.

Notwithstanding this, it would be advisable to put forward common criteria to assist Member States in their assessments. These criteria should be based on quantifiable indicators, such as those identified in the Interpretative note on Retail Markets, e.g. improved retail competition; improved energy efficiency and energy savings; lower bills due to better customer feedback; the provision of new services for consumers; and improved tariff innovation with time of use tariffs.

**Therefore, EU recommendations for roll-out of smart meters and EU policy for the implementation of Smart Grids needs to be elaborated. They should identify who does what and interrelations to deploy Smart Grids, including recommendations for funding through regulatory means.**

## **8. Planning for three initial Expert Groups**

The initial duration of the Task Force is 20 months, till May 2011. The planned efforts of this Work Programme are focussed on the following initial **Expert Groups** identified at the 1<sup>st</sup> Steering Committee meeting:

### **1) Functionalities of Smart Grid and Smart Meters.**

The key deliverable is to provide an agreement among all actors involved on a set of minimum functionalities for Smart Grids and Smart Meters. The work will be focussed on the following topics:

- Adopt the defined services that the Smart Grids are expected to deliver to different network costumers.
- Take into account and follow up the work of CENELEC, ERGEG, GEODE, and other position papers' and stakeholders' consultations on Smart Metering.
- Take stock of the smart metering implementation status in different MS.
- Define concept of Smart Grid within the framework of the Task Force.
- Define in which part of the Smart Grid concept Smart Metering plays a key part.
- When discussing functionalities, the following aspects of Smart Meters could be taken into account: access to consumption information in actual time of use, demand meter data access for authorised third party, price signal to customer, remote meter management, remote demand control, remote connection/disconnection, quality of supply and price signal to customer.

- Ensure that functionalities take into account needs of all customers, including vulnerable customers.
- Define to what extent there is a need to have functionalities regulated
- Recommendations to integrate a standardisation strategy into the strategy for Smart Grids
- Define to what extent there is a need for a mandate on Smart Grids standards.
- Agree on the minimum requirements on functionalities of Smart Grids.
- Agree on the minimum requirements on functionalities need in Smart Meters or Metering Systems necessary for Smart Grids.

## **2) Regulatory recommendations for data safety, data handling and data protection**

The key deliverable is to identify the appropriate regulatory scenario and recommendations for data handling, safety and consumer protection. The work will be focussed on the following topics:

- Identify the benefits and concerns of customers with regard to Smart Grids.
- Provide an overview of European legislation on data protection, privacy and its enforcement.
- Recommend whether further protective measures should be put in place
- Identify possible risks in the handling of data, safety and data protection
- Identify ownership of data and access rights.
- Identify responsible parties for data protection and enforcement mechanisms
- Develop a framework in which way data can be used
- Provide recommendations on the Communication of Smart Grid benefits to consumers, citizens and politicians

## **3) Roles and responsibilities of actors involved in the Smart Grids deployment**

The key deliverable is the development of recommendations on the roles and responsibilities of all involved actors in the implementation of the Smart Grids as well as the definition of criteria and recommendations for funding of Smart Grid deployment. The work will be focussed on the following topics:

- Explore ways in which the deployment of Smart Grids can be encouraged or incentivised to help EU's objectives on climate change and energy policy.
- Based on the expected services of Smart Grid, define strategic activities and duties that must be performed along the value chain by all different identified actors
- For various identified parties define the interaction among them, the issues and the advantages of the assigned tasks.
- Define the interfaces that need to be regulated
- Recommendations on policy and regulatory directions for these interfaces.
- Identify main barriers to the implementation of Smart Grids and explore the regulated markets involved in Smart Grids.
- Handling of reasonable costs resulting from implementation of Smart Grids under the regulatory regime (including cost-allocation, tariff approval and roll-out plans and responsibilities) and mechanisms to ensure cost benefits are passed on to consumers .
- Development metrics to measure and monitor quality and efficiency of roll out
- Provide regulatory recommendations for the implementation of coordinated pilot projects on Smart Grids at European-scale; identify WWW (who, how and when)

- Elaboration of public-private partnerships models for Smart Grid roll-out
- Produce a cost-benefit template to be used in future cost assessments

## **9. Participants**

In carrying out its mandate and in accordance with the above paragraphs, the Expert Groups will implement this Work Plan by means of its own resources.

Members of the Expert Groups should be at a high level in their organisation and market domain and should be in a position to influence stakeholders, to foster partnerships and to leverage resources, as well as to be able to demonstrate a high degree of commitment to the Task Force and be able to devote sufficient time to its activities.

Chairpersons of each Expert Group will inform the Steering Committee on the Members of their Experts Groups as soon as they are nominated and report on any changes in their composition at the Steering Committee meetings.

The table below shows the participation in the Expert Groups.

## **10. Timing**

1. The three Expert Groups should provide the key deliverables described above by the end of May 2010.
2. Expert Groups will periodically report on their progress at the next Steering Committee meetings, i.e. February, April and June 2010.
3. Based on the results of the three Expert Groups and their expected identification of specific recommendations under each domain, the Work Programme will be updated in June 2010 to produce a set of regulatory recommendations, probably by the end of 2010, to ensure EU-wide consistent and fast implementation of Smart Grids, while achieving the expected Smart Grids' services and benefits for the network users.

## Task Force Smart Grids

### Proposed composition of Expert Groups

Expert Group	Expert Group 1: Functionalities for Smart Grids and Meters	Expert Group 2: Regulatory recommendations for data safety, data handling data protection	Expert Group 3: Roles and responsibilities of actors involved in Smart Grids deployment
<b>Key deliverables</b>	Functionalities which should have the Smart Grids and Meters	Identify the appropriate regulatory recommendations for data handling, safety and consumer data protection.	Recommendations on who does what and interrelations to deploy the vision, including recommendations for funding through regulatory means.
<b>ANEC</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>BEUC</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>CECED</b> , European Committee for Domestic Equipment	<b>X</b>	-	<b>X</b>
<b>CEDEC</b> , Federation of Local Energy Companies	<b>X</b>	<b>X</b>	<b>X</b>
<b>CEER/ERGEG</b>	<b>X</b>	<b>X</b>	<b>Chair</b>
<b>CENELEC</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>DIGITALEUROPE</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>DSO club</b>	<b>Chair</b>	<b>X</b>	<b>X</b>
<b>ECPE</b> , Centre for Power Electronics	<b>X</b>	<b>X</b>	-
<b>ENTSO</b>	<b>X</b>	-	<b>X</b>
<b>EPPSA</b> , Power Plant Suppliers	-	-	<b>X</b>
<b>EREC</b> , European Renewable Energies Council	-	-	<b>X</b>
<b>ESIA</b> , Semiconductor Industry Association	<b>X</b>	<b>X</b>	<b>X</b>
<b>ESMIG</b> , European Smart Metering Industry Group	<b>X</b>	<b>Chair</b>	<b>X</b>
<b>EURELECTRIC</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>European Commission</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>EUTC</b> , Utilities Telecom Council	<b>X</b>	<b>X</b>	<b>X</b>
<b>GEODE</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>T&amp;D Europa</b>	<b>X</b>	<b>X</b>	<b>X</b>