



GEODE POSITION ON ERGEG PUBLIC CONSULTATION ON SMART GRIDS

GEODE the European association representing the interest of **energy distribution companies**, welcomes ERGEG paper on Smart Grids and is grateful for the opportunity to contribute.

GEODE shares ERGEG's view that to achieve EU target of 20% renewable energy supply by 2020 and the 20% reduction in energy consumption there will be an increase in generation using renewable energy sources. This presents fundamental challenges regarding planning, design and operation of the electricity networks. Intermittent generation (renewables) puts pressure on continuity of supply and distributed generation can put pressure on quality and safety. This will require the evolution of electricity networks towards **SMART GRIDS** to ensure the security and quality of electricity supply.

As the ones responsible for the deployment of Smart Grids (network infrastructure) **GEODE** supports TSOs and DSOs, while electricity consumers and producers are the ultimate beneficiaries of its deployment. The power grid will become a platform for new energy services to be provided to customers, offering them added value. Local distributors within **GEODE** have a key role to play in providing these services.

Smart Grids require huge investments, therefore it is vital that regulatory mechanisms and incentives, supporting and guaranteeing these investments are put in place. These mechanisms should also apply to investments on conventional technologies and grids. **GEODE** considers the role of national regulators as being essential in facilitating the deployment of Smart Grids alongside the work being undertaken by the EC Task Force for the implementation of Smart Grids, which has the ultimate aim of creating a regulatory framework for the Smart Grids. Nevertheless, regulators should not impose specific smart solutions to network operators, they should leave them to manage their business in the most appropriate way.

Even if there is a clear need for electricity networks to evolve towards Smart Grids, **GEODE** would like to point out that Smart Grids should only be delivered as and when required. The need of Smart Grids should be considered together with other energy policy objectives as security of supply, quality of supply and economic efficiency.

GEODE disagrees with ERGEG on its view that it is possible to "have a smarter distribution and transmission network without smart metering". **GEODE** considers Smart Meters to be one of the vital underlying elements in Smart Grid development and a key tool for Smart Grids. Their simultaneous development



will be vital in the overall deployment of Smart Grids. If the utilities are already in the planning stage of Smart Metering roll-out and they take an early strategic view of the investment and plan early for the Smart Grid functionalities, investment will benefit greatly. It has to be taken into consideration that Smart Meters' functionalities contribute to the operation of the grid, the deployment and understanding of Electrical Vehicles and Distributed Generation.

GEODE also disagrees with ERGE's statement that large-scale renewable energy sources mainly affect TSOs. **GEODE** wants to underline that renewable energy sources affect DSOs as well. It has to be remembered that large-scale renewable energy generation plants are not always connected to the transmission grid, but often to the distribution grid. This leads, in some cases, to an increase of DSO's customer tariff because of the deployment, for instance, of a wind farm far away from the DSO area. The DSO have the difficult task of making customers understand this.

Lastly **GEODE** would like ERGEG to coordinate their work on Smart Grids with the outcome of the EC Task Force for the implementation of the Smart Grids, to avoid possible overlaps.

QUESTIONS FOR PUBLIC CONSULTATION

Section 1 – Introduction

1. Do you think that networks, transmission and distribution, are facing new challenges that will require significant innovation in the near future?

Yes, **GEODE** considers that EU 20-20-20 targets, will lead to considerable growth in renewable energy generation (intermittent generation) along with an increase in distributed generation (including micro-generation on a large scale), and electric vehicles. This may lead to a reverse load flow. It will also contribute to new requirements for transmission and distribution networks operators, enabling them to manage generation and demand in a more "smart way".

2. Do you agree with ERGEG's understanding of smart grid?

GEODE agrees with the definition of Smart Grid given by ERGEG, which corresponds to an adjusted definition provided by the European technology platform on Smart Grids. Security of supply and sustainable grid operation are the basis for Smart Grids.



3. Do you agree that objectives of reducing energy consumption impose the need for decoupling regulated companies profit from the volume of energy supplied? How can this be implemented?

GEODE disagrees with ERGEG's proposal to decouple DSOs profits from energy volume, because there is no need for it.

An increasing number of DG and "prosumers" is a new challenge and therefore neither considered in the implemented tariff schemes nor in the regulation models. One consequence is that the energy delivered to the consumers is decreasing and at the same time the grid tariffs (price per kWh) will increase in order that grid operators can cover their (fixed) costs. It has to be assured that customers who are not able to act as prosumers are targeted with increasing electricity bills. Flat rates can be a solution to that, but they do not set a signal towards increasing energy efficiency to the customers. From the point of view of a DSO a load (kW) oriented approach is a step towards a cost oriented (cause-fair) tariff system.

In **GEODE's** view DSO should have the freedom to choose an adequate tariff structure in accordance with local needs using components depending on the energy consumed (kWh), the consumed load (kW) and flat rates.

It should be taken into account that not every country allows revenues for the volume of energy supplied. This will be the case in UK from April 2010.

Section 2 – Drivers for Smart Grids

4. Do you agree with the drivers that have been identified in the consultation document? If not, please offer your comments on the drivers including the additional ones.

GEODE agrees with the drivers for Smart Grids considered by ERGEG. **GEODE** would also like to include, the load growth due to Electrical Vehicles, heat pumps and air cooling. In addition, the need to uphold customer services levels, by keeping customers informed, and increased energy efficiency.

Section 3 – Smart grid opportunities and regulatory challenges

5. Do you agree that a user-centric approach should be adopted when considering the deployment of smart grids?

GEODE considers that a user-centric approach with regard to the deployment of Smart Grids may be a rather narrow approach. Greater consideration should



be given to the potential benefits of Smart grids to society as a whole alongside their potential to help achieve the EU 20-20-20 targets and ensure security, quality of supply and sustainability.

6. *How should energy suppliers and energy service companies act in the process of deploying smart grid solutions?*

Grid operators, especially DSOs are the ones that have the task of implementing the network infrastructure and shall be the main players in this process. It will allow the flow of energy and information, between customers, producers, suppliers and all other grid users in the new Smart Grid framework.

GEODE considers that the decarbonisation of electricity supply will bring incentives for supply and service companies, to provide and offer new services and products to customers. However up to now these actors do not seem to have been very actively involved in the discussions for Smart Grid deployment. Network operators gathered under **GEODE** would like to act as providers of these services to customers and should therefore be allowed to do so along with other actors.

7. *Do you think that the current and future needs of network users have been properly identified in Section 3.3?*

GEODE considers that in general the ERGEG paper does identify the main current and future needs of network users but the list is incomplete.

Security and quality of supply and sustainability are important for network users. It has to be kept in mind that huge re-investments are necessary to replace the aging grid-components in order to guarantee an appropriate level of security of supply. The needs, desires, behaviour etc. of network users shall be examined through studies, field tests, etc. to avoid a development against the real needs of the customers. Also research of the real potential of demand side management activities of residential customers should be examined.

8. *Do you think that the main future network challenges and possible solutions have been identified in Sections 3.4 and 3.5 respectively? If not, please provide details of additional challenges / solutions.*

GEODE considers that in general, the ERGEG paper identifies the main future network challenges, but again the list is incomplete. For instance in **GEODE's** view, increased growth in distributed generation and electric vehicles, heat pumps and air cooling should be considered when referring to network capacity planning.



9. Do you expect smarter grid solutions to be essential and/or lower cost than conventional solutions in the next few years? Do you have any evidence that they already are? If so, please provide details.

GEODE considers that smarter grid solutions will not be essential or neither will costs decrease in the next few years. They will decrease in the longer term, probably in the next 5 to 10 years. However during this time projects investment on smart technologies will begin, but together with investments using conventional technologies.

10. Would you add to or change the regulatory challenges set out in Section 3.6?

GEODE considers that national regulators, as facilitators of Smart Grids deployment, should guarantee adequate finance for DSOs and TSOs to cover the huge investments the installation of Smart Grids will require. Support for a regulation to provide security for this investment is required.

At the same time a lot of R&D has to be done. Market actors like DSO shall engage in R&D. Tariffs and permitted DSOs revenues are commonly set by incentive-based regulations. Their main objective is to increase the efficiency of the DSOs and to lower tariffs for customers. To sum up, the DSOs in Europe are under considerable pressure to keep their costs low – there is virtually no room for R&D expenditure and no incentive for it.

As DSOs are regulated, it is very important that national regulators make R&D accessible to medium and small DSO's by providing the necessary financial mechanisms, accepting cost in R&D as grid costs being part of grid tariffs. This would give DSOs the opportunity to demonstrate a stronger commitment to R&D and be part of the creation process of the electricity networks of the future – the Smart Grids –. In this context, the implementation, at national level, of the requirements set out by new electricity directive (section 37, paragraph 8 1) is of considerable importance.

Using new solutions and innovative technologies to equip the electricity grids to handle the described new challenges, is linked to investments in which there are considerable hidden risks. To this end on the one hand an investment friendly climate has to be established through an adoption of the implemented regulation models. On the other hand the rising potential risk of the investments has to be taken into consideration.

Regulators have to change their regulatory behaviour from short term cost reduction regulation to a long term innovative and investment friendly regulatory

¹ In fixing or approving the tariffs or methodologies and the balancing services, the regulatory authorities shall ensure that transmission and distribution system operators are granted appropriate incentive, over both the short and long term, to increase efficiencies, foster market integration and security of supply and support the related research activities.



scheme. Incentives for adequate investments in electricity grid have to be implemented. In this context it is very important that this does not lead to over-regulation.

Section 4 – Priorities for Regulation

11. Do you agree that regulators should focus on outputs (i.e. benefits of smart grids) rather than inputs (i.e. the technical details)

GEODE agrees that Regulators should focus on the output of the Smart Grids and the benefits, rather than technical issues, but regulators should understand the technical details as well. In that respect, **GEODE** shares its view with European Commission Task Force that 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.

12.- Which effects and benefits of smartness could be added to the list (1) – (7) presented in Section 4.1, Table 1? Which effects in this list are more significant to achieving EU targets? How can medium and long term benefits (e.g generation diversification and sustainability) be taken into account and measured in a future regulation?

Other additional benefits may include reduction of market price volatility, improvement of grid stability, smart voltage control to accommodate higher levels of RES, electrical vehicles, and heat or cooling pumps demand to minimise network reinforcement.

13. Which output measures should be in place to incentivise the performance of network companies? Which performance indicators can easily be assessed and cleansed of grid external effects? Which are suitable for European level benchmarking and which others could suffer significant differences due to peculiar features of national/regional networks?

The indicators contained in Table 4.1 of ERGEG's paper plus the indicators suggested above, should be a basis to incentivise the performance of network companies along with financial allowances for the investment made.

14. Do you think that network companies need to be incentivised to pursue innovative solutions? How and what output measures could be set to ensure that the network companies pursue innovative solutions/technologies?

GEODE definitely believes that network companies have to be incentivised to pursue innovative and smart solutions. Clarity about cost recovery is essential. Network companies, TSOs and DSOs, are legally requested to deploy the new smart grid, while grid users, consumers and producers are the ultimate



beneficiaries of the deployment. Thus sufficient incentives should be provided by Regulators for DSO to guarantee the necessary investments in electricity grid and sufficient R&D can be carried out.

15. Do you consider that existing standards or lack of standards represent a barrier to the deployment of smart grids?

GEODE believes standardisation is especially important to achieve interoperability of Smart Grid devices and systems, but they should not become a barrier to the deployment of more efficient electricity grids. Ensuring Smart Grid compatibility with Smart Meters and communication systems will be of particular importance.

16. Do you think that other barriers to deployment than those mentioned in this paper can be already identified?

GEODE considers that other barriers to the deployment of Smart Grids than those considered by ERGEG are the uncertainty as to how TSO's or DSO's investments costs are going to be recovered together with unproven technology.

Considering that Smart Grids have the potential to positively impact the whole electricity supply chain, another barrier could be the unbundling of the market and the resulting number of market players that makes it difficult to ensure that optimisation is achieved throughout the value chain.

17. Do you believe new smart grid technologies could create cross subsidies between DSO and TSO network activities and other non-network activities?

The risk of cross subsidies between DSO and TSO network activities and other non-network activities, with regards to new smart grid technologies should be carefully monitored.

18. What do you consider to be the regulatory priorities for electricity networks in relation to meeting the 2020 targets?

The regulatory priorities should focus on providing the necessary legal framework to ensure that the information from the current grid system to an intelligent one is carried out by the network operators, DSOs and TSOs. To achieve this goal regulatory priorities should include:

- clarity on investment costs recovery mechanisms
- providing clear roles and responsibilities of different actors involved in the deployment of Smart Grids
- providing clarity on data protection issues arising from Smart Grid and Smart Meter deployment
- defining minimum functionalities of Smart Grids



- making R&D accessible to all networks operators regardless of their size

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