

bne – Statement

ERGEG-Public Consultation: Position Paper on Smart Grids (E09-EQS-30-04)

Berlin, 01.03.2010

1.3 Questions for public consultation

Section 1 – Introduction

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

With the increasing deployment of intermittent generation like wind generation and distributed generation like solar generation the transmission and distribution grids will have to adapt to be able to guarantee a reliable and secure electricity supply.

Not all of the required changes in the grids are revolutionary; most of them are an evolutionary development of existing technology. The increase of generation with renewable energies implies a change in the geographic distribution of generation. Therefore new grid-capacity, i.e. new lines, will have to be built to accommodate this development. In some cases the optimisation of the existing grid, the deployment of new technology and the use of demand side management could replace the expansion of the grid.

The existing methods for the management of the grids (transmission and distribution) have to be refined and in the distribution grids the means to measure and influence the power-flows have to be enhanced. Most of the needed technology and procedures are already known and commonly used. The challenge is to find solutions that integrate into the markets as most of the common solutions were developed by integrated utilities and are not compatible with the liberalised markets.

The new aspects in grid-operations that are commonly described as “smart-grids” are related to the integration of small distributed generation and the development of demand side management in the electricity system. The many distributed generation plants have to be as manageable as the existing large power-plants, and with more intermittent power they will have to be even more flexible.

The term “smart grids” is misleading as it implies that the smart tasks are executed by the grid (-operator). In fact the whole electricity market has to participate, and thus all the smart actions of a grid operator have to be well integrated into the markets and subsequently need the collaboration of the other market participants. In this respect ERGEG’s position is subject to a fundamental misunderstanding. Small generators and small customers will, due to high transaction costs, not be able to directly participate on the markets. Those small generators and customers will need energy suppliers or energy service providers to get actively involved. Most of our comments to the position paper iterate this argument.

2. Do you agree with the ERGEG's understanding of smart grid? If not, please specify why not.

From our point of view, the ERGEG's understanding of smart grids is unsatisfactory, because it is technology-centred and does not consider the markets adequately. If a grid operator needs more or less power in his grid, he has to take some action either to increase or decrease generation or decrease or increase consumption. In liberalised electricity markets, where generated energy is traded in the wholesale market, any direct action of the grid operator on a generation plant will influence the commercial transactions of that generation-unit. The same applies for consumption changes: The consumer needs an electricity supplier to cover his demand. If the consumer changes his consumption the electricity-supply of the supplier is altered. The smart-grid-concept has therefore to be extended by a market component and developed into a smart-electricity-system-concept. Wherever possible and appropriate, actions of the grid-operator should have to be executed via the markets. In this sense for example a market for balancing power within the distribution grids should be developed.

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?

A full decoupling of companies' profit generated in the grid from the volume of energy supplied could have negative effects on the efficiency of the grid. A grid can only be efficient if it is not larger than required by the consumption (or generation) in that grid. Of course, the reduction of energy consumption will develop quicker than the networks reaction to that development by a reconfiguration of the grid can be. A benchmarking concept of the efficiency (cost/performance) of the grids could be a solution.

ERGEG's proposal in section 4 of integrating performance indicators into a benchmarking system is a good approach to the problem - although defining the details is quite a challenge. Thus the indicators listed in the position paper certainly need more detailed examination. Furthermore, any indicator having an impact on the revenue of the regulated entity has to be fully checkable by regulators or other stakeholders.

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 additional ones.

The drivers are well identified, though the end-user participation will depend on energy-suppliers and energy service companies products offered, as those parties have to be the link between wholesale markets, grids and end-users. Grids have to enable suppliers and service companies to develop products by for example offering cheaper network fees for a more adapted network use or a possible curtailment of the network-use. A management of

the appliances that aims at the lowest electricity consumption prices is not a task assigned to grid-operators within a liberalised market.

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?

There is no doubt that the participation of users is essential for the success of smart grids. Therefore the user's view is a good starting point for further analysis. We totally agree that electricity networks exist for the sole purpose of facilitating the actions of parties that require their services. And we completely agree that retail suppliers and energy service companies have to be fully involved in any smart-grid-system. ERGEG addresses all major problems in its analysis.

6. How should energy suppliers and energy service companies act in the process of deploying smart grids solution?

Energy suppliers and energy service companies will be the link between the grids, the wholesale markets and the customers / prosumers. With their products they are going to enable the users to participate in the markets. They will on the other hand offer services to the grid operators.

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

In section 3.3.1. the services needed by generators and prosumers are listed. This list does not differentiate between small and large generators. This differentiation is essential, as the access to the markets requires a high degree of knowledge and costly resources. Large generators dispose of those prerequisites, small generators do not. A level playing field can not be achieved on these grounds. Other market participant will have to close this gap.

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

The assessment of the main future network challenges is overall comprehensive. The role of the markets and the role of energy suppliers and energy service companies though is not sufficiently recognized. In section 3.4.2 ERGEG names interoperable communication facilities to link customer-owned devices with the network. A direct communication link is not required; it would in fact tamper the activities of energy suppliers and therefore retail competition.

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.

Smart grids will be essential in keeping a high quality of supply in some distribution grids, this really depends on the individual conditions of the grids. Smart grids will help in providing balancing energy for intermitten generation, though the required "smartness" of the grids for this application is limited. We have no evidence on costs for smart-grid-solutions.

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

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Section 4 – Priorities for Regulation

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

Defining and purporting technical details can not be the scope of regulation of electricity grids and smart-grids are not an end in themselves. Thus focusing on the outputs is a sensible approach.

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?

The list of potential performance indicators needs further analysis. We doubt that all indicators are equally important in every region.

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?

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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?

See answer to question 3.

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

Today, there is a great diversity of standards, many of them defined or specified by grid-operators. Those standards are not yet adjusted to the smart-grid concept. To develop smart-grids open and uniform standards are essential to keep the costs low so that the incentives for generators and consumers to participate in the markets can be maximized.

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

Market design and market rules have to be adapted to a greater active involvement of small generation or to demand-side management. The topics that have to be addressed range from shorter gate-closure times to the balancing provisions and the billing of network-use. Most importantly, the meaning of smart-grids is not yet conclusive.

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

The possibility to actively manage generation units definitely bears some potential for cross subsidies. This kind of intervention is difficult to regulate, as the detailed actions of the grid operators would have to be overseen by regulators. The effective unbundling for distribution grids would minimise the danger of cross subsidies on the distribution level.

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

Regulators should support the development of increased capacity of the transmission grid in order to create the necessary capacity for electricity from renewable generation. The planning process for those grid investments is protracted and has the potential to constrain the expansion of renewable energies and distributed generation. In this context a new regulatory framework has to be developed for the cost-effective integration of new technologies in the existing networks.

To complement the expansion of the grid, regulators should develop an improved market design in order to create a single European market. With an appropriate market design the response of the market participants to intermittent generation could be enhanced and the strain on the grids could be alleviated. Likewise, regulators should initiate new network tariffs to incentivise the added flexibility of small generation and demand side management.