EDSO for Smart Grids response to the European Commission consultation on the draft Communication: State aid to promote important projects of common European interest (IPCEIs)

EDSO for Smart Grids

European Distribution System Operators for Smart Grids (EDSO) represents leading European electricity distribution system operators (DSOs). EDSO member DSOs are regulated monopolies, legally and functionally unbundled from electricity generation and retail and have at their core the responsibility of providing a secure supply of electricity and quality of service. The European climate and energy policy objectives, as well as the deregulation and integration of Europe's electricity markets, are dramatically transforming our energy system. A more dynamic system, increasingly reliant on distributed generation, with active consumers in focus, is replacing the old and more predictable system based on centralised power generation. DSOs are neutral to, although heavily affected by, the makeup of electricity generation across Europe, since most of the new renewable and distributed electricity generation is connected at distribution level. EDSO members are investing in smart grid technologies, research, development, demonstration and innovation and are already at the forefront of renewables integration and energy efficiency improvements. European DSOs are 100 percent committed, but struggling to develop and deploy smart grids at the necessary pace in the lead up to 2020, based on the present preconditions.

Introduction

European DSOs are profoundly affected by the changing nature of electricity generation across Europe. Substantial amounts of public money has been allocated to support renewable energy generation, but now is the time to support the integration of these renewables into our networks in ways that will safeguard security of supply and quality of service, while keeping costs down. It has been recognised in a number of European Commission publications that smart grids are the solution not only to integrating more variable and distributed energy generation, but also to having a fully functioning and integrated internal market for electricity, where the consumer plays an active role.

In order to deploy smart grids, there is a great need for investment in research, development and innovation, where large-scale demonstration is a prerequisite, as well as for investment in actual deployment. Regarding RD&D and innovation, EDSO appreciates the European Commission's focus on grids at distribution level in the ENERGY call 2014-2015, under Horizon 2020, guided by the work of the European Electricity Grid Initiative (EEGI), the important multi-stakeholder industrial initiative under the Strategic Energy Technology Plan (SET-Plan), where distribution and transmission system operators are cooperating. Furthermore, EDSO thanks the European Commission for its revised European Regional Development Funding (ERDF) rules for the next six years, which give new potential for public spending on smart grid demonstration projects. DSOs are leading on smart grid RD&D, but being regulated entities would not have been able to do so without the support of such EU grants, nor without government backing.

However, some European funding policies, despite acknowledging the need for wide-scale smart grid deployment, do not reflect the reality of funding these projects by either a) overlooking the particular regulatory barriers for DSOs in the various member states when designing funding rules, but also by b) excluding public financial support to smart grid development at local level based on the assumption that only projects involving more than one member state can be considered to be in the EU's "common interest". The draft communication on State aid to promote important projects of common European interest (IPCEIs) is an example of this. EDSO would like to emphasise that:

Wide-scale deployment of smart grid solutions at local level (where the majority of renewable energy is connected) is crucial and urgent for local and overall EU grid stability, as well as for the completion of the internal electricity market in Europe. For this reason, key European funding policies for electricity network deployment should not only apply to cross-border projects.

This paper lays out the EDSO position in this regard. EDSO would also like to refer the European Commission to the below papers when further developing its state aid policies:

- European Parliament resolution, adopted on February 4th 2014, on the Local and Regional Consequences of Smart Grids
- EDSO's response to the European Commission's consultations on draft state aid guidelines for energy and the environment (deadline February 14th 2014) and a Union framework for state aid for research, development and innovation (deadline February 17th 2014).

Large and urgent investment needs

Overall energy costs for the consumer are rising. The European Commission's 2011 Communication on Energy Infrastructure Priorities for 2020 and Beyond put a figure of €400 billion on the total needed to upgrade Europe's *distribution networks* (electricity and gas) to the level needed for a fully functioning and integrated European electricity market to operate through.

Smartening our grids is the cost-efficient way to ensure our networks meet these policy driven demands without succumbing to an elevated and costly risk of disruptions to supply. The huge investment need remains, and unless large-scale public funding is permitted to support these developments, accompanying the significant reform of regulatory regimes across the member states, the consumer will be forced to bear huge additional costs.

Local as important as cross-border – new criteria needed

Many European Commission texts make direct references to the need to support smart grid development. However, the principal tools available to financially support smart grids exclude developments at distribution level, which is where the majority of new generation and demand (renewables, storage, electric vehicles etc.) need to be connected. The first of these is the Connecting Europe Facility (CEF), where projects must firstly make it onto a list of projects of common interest (PCIs). The eligibility criteria for projects to make it onto the list of PCIs are not at all suitable for smart grid development:

"…for smart grids, the project is designed for equipments and installations at high-voltage and medium-voltage level designed for a voltage of 10 kV or more. It involves transmission and distribution system operators from at least two Member States, which cover at least 50 000 users that generate or consume electricity or do both in a consumption area of at least 300 Gigawatthours/year, of which at least 20 % originate from renewable resources that are variable in nature."

These criteria made it impossible for most smart grid projects to apply. The best part of smart grid technologies are applied to DSO networks operating at a lower voltage / local level. The result was that only two of the 250 PCIs are linked to smart grids. Likewise, the draft communication on State aid to promote important projects of common European interest (IPCEIs) contains criteria that impede funding to smart grid projects. This must be carefully re-thought in terms of the ability of the member

states to achieve the EU's climate, energy and internal market objectives and especially considering that the state aid modernisation package will set the rules for public financing for the years leading up to the important 2020 milestone.

EDSO would like to see the European Commission address what it sees as an underestimation of the significance of creating (on a wide-scale) smart and stable distribution networks. To focus only on projects involving two member states, something more suited to transmission level, not only ignores the value of ensuring stability at distribution level for securing stability at transmission level, but also overlooks what smart systems will do for realising the EU's key objective of creating an internal market for electricity (sending clear and timely consumption and production signals to market operators, facilitating consumer participation in the market through demand side response, identifying and addressing generation/curtailment needs more effectively, making the best use of renewable electricity where it is most needed). To add to this, it is the distribution and not the transmission networks that, in most cases, connect directly to the consumer. This is where the largest potential exists for the development of innovative products and services. Such products not only tend to be geared towards reducing consumer costs, helping to manage demand against supply, but also work towards other EU objectives such as energy efficiency and the creation of jobs and growth. EDSO would like to see smart grid development at local level considered a project of common interest, whether an individual project directly involves more than one member state or not. These are the criteria that would attract the most cost-efficient smart grid projects:

"…for smart grids, the project is designed for equipments and installations at ~~high-voltage and medium-voltage level designed for a voltage of 10 kV or more~~ ***any voltage level****. It involves ~~transmission and distribution network operators from at least two Member States, which~~* ***network(s)*** *covering at least 50 000 users that generate or consume electricity or do both in a consumption area of at least* ***150*** *Gigawatthours/year, of which at least 20 % originate from renewable resources that are variable in nature."*

Conclusion

The majority of new generation and demand (renewables, storage, electric vehicles etc.) need to be connected at local (distribution) level. Smart grid development at local level, if deployed on a wide scale, is a prerequisite for cost-efficient achievement of the EU's objectives to 2020 and beyond, has the potential to contribute towards growth and job creation, but is also crucial for the completion of the internal energy market. Large investments are, however, needed now in order to meet the important 2020 deadline. This is widely recognised throughout the EU institutions.

The cost of research, innovation, demonstration, and finally deploying smart grids across Europe is extremely high, yet regulation in many countries poses a barrier to private investment. Public support to smart grid development is important to ease network costs for consumers. The draft communication on State aid to promote important projects of common European interest (IPCEIs) does not reflect the urgent need for smart grid investment since it imposes the same criteria as for the PCIs under the TEN-E, thus excluding the majority of local smart grid projects that will, nonetheless, offer benefits beyond the member states' borders. The European Commission, by not recognising smart grid development at local level to be in the "common interest" and by not altering the rules for state aid to IPCEIs to reflect this, is hampering the achievement of its own goals.