



07 November 2016

Enhanced DSO Cooperation

BACKGROUND

Mindful that the energy transition demands closer inter-DSO cooperation in the interest of customers and society at large, the European associations representing DSOs - CEDEC, EDSO for Smart Grids, EURELECTRIC, Eurogas and GEODE - have been working collaboratively for some considerable time, amongst others in Expert Group 3 of the European Commission's Smart Grid Task Force, during the Network Codes development process, and during the preparation of the Florence and Madrid Fora.

Furthermore, in recognition that DSO matters are becoming of increasing interest and key to European energy policy, the European Commission has repeatedly expressed its desire to receive trusted and expert advice on a range of matters affecting DSOs, including electricity market design; DSO/TSO cooperation; flexibility patterns and procedures; integration of renewable energy sources; deployment of smart grids; demand response; digitalisation and cyber security.

CEDEC, EDSO for Smart Grids, EURELECTRIC and GEODE are actively engaged in formal cooperation with ENTSO-E on the electricity side and entered into a Memorandum-of-Agreement in April 2015, which had and is continuing to result in fruitful benefits. CEDEC, Eurogas and GEODE cooperate informally on gas related issues, also with ENTSOG.

In the course of the above cooperation and elsewhere, the concept of "flexibility" meaning the use of novel methods, techniques and resources by DSOs to manage the increasing incidence of congestion on their networks has repeatedly arisen. Accordingly, the above Associations have now decided to deepen their cooperation and are prioritising this issue and hereby establishing a programme of work and a committee of experts as set out below.

The purpose of this work programme is to pool expertise and learning from a wide range of expertise of the many DSOs which the Associations represent to tackle issues of common interest and to provide reports of their findings and insights to the public at large and to be of assistance to the European Commission.

COMMITTEE ON FLEXIBILITY MARKETS

Focus Area #1 – “Flexibility” Issues for Electricity DSOs

There is an increasing incidence of congestion on the electricity distribution grids which are calling for new operating and planning techniques for the electricity DSOs. The following questions must be addressed.

1. **Problem Definition** - Is there a clear and consistent way of describing and measuring the various states of the network (well supplied, disrupted, congested etc.) which can express the problem(s) that electric DSOs experience from time to time? What is the granularity of the network segments on which grid status signals should be communicated?
2. **Solution Space** - Given the above, what is the definition or specification of the services that could assist the electric DSO when addressing the issues set out in response to Q1 (above)? In defining these services, to what extent can standardisation be used or are the aspects of the problem that require services of an on-off nature? Please justify.
3. **Technologies** – What is the range of known technologies or resources that might be candidates to offer these services, for example demand-side response; or local generation, battery or other energy storage devices? What is the catalogue of potential supply? What does technological advance hold for this catalogue?
4. **Modes of Service Acquisition** – In recognition that in business-as-usual, the electricity DSOs acquire a wide range of services and products (under regulatory supervision), what are the possibilities open to the electricity DSOs to acquire these services for example by arms-length commercial procurement or otherwise? What are the prospects of organised liquid markets developing for these services and what might be the ‘footprint’ of these markets (local or regional or other)? What are the consequences or remedies open to the electricity DSO in the event of non-performance by any of the service providers?
5. **Micro Grids** – What additional challenges arise due to micro-grids?

Overlaps with Gas DSOs

6. **Gas-Based Resources** - Are micro-CHP and fuel cells used for the production of electricity and heat and flexible consumption of electricity, or electricity produced locally from gas adequately addressed in the above? Likewise, for power-to-gas plants or plants which inject hydrogen and/or renewable gas, including gas from power-to-gas operations.

Overlaps with Electricity TSOs

7. **TSO and DSO Coordination** – TSOs will have own requirements for flexibility and service providers may wish to make offerings to the TSOs? How is this to be managed?

Other overlapping Interests – Who are the other stakeholders (e.g. aggregators) and what are their interests in this work programme?

Focus Area #2– “Flexibility” Issues for Gas DSO

8. **Problem Definition:** Assess whether current flexibility arrangements under the European Balancing Network Code are sufficient for the system with increasing penetration of renewable gasses at local level.
9. **Solution Space** - Given the above, what is the definition or specification of the services and / or technologies that could assist the gas DSO when addressing the issues set out in response to Q9 (above)? What are the factors affecting the choice of option and the regulatory environment necessary to accommodate it?
10. **Technologies** – What is the range of known gas-based technologies or resources that might be candidates to offer flexibility services to the system, for example demand-side response; local gas-based generation like micro-CHP and fuel cells; power-to-gas plants; plants which inject hydrogen; biomethane (“green gas”); grid storage; or heat storage? What is the catalogue of potential supply? What does technological advance hold for this catalogue?
11. **Modes of Service Acquisition** – In recognition that in business-as-usual, the gas DSOs acquire a wide range of services and products (under regulatory supervision), what are the possibilities open to the gas DSOs to acquire these services for example by arms-length commercial procurement or otherwise? What are the prospects of organised liquid markets developing for these services (for example through EU-certified biogas) and what might be the ‘footprint’ of these markets (local or regional or other)? What are the consequences or remedies open to the gas DSO in the event of non-performance by any of the service providers?

METHODOLOGY AND DELIVERABLES

The two focus areas will work in parallel but identify possible further points of overlap and/or interdependency and will coordinate on these on a regular basis.

The main deliverable is a report addressing the questions (and including the views of the stakeholders) set out above which is capable of being published and in particular is delivered to the European Commission.

The report will be agreed by the experts nominated by the Associations and these will bear responsibility to inform and coordinate with their own associations or committees for final approval.



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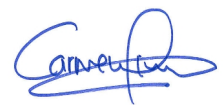
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