André Even
Consultant engineer

February 28, 2010

ERGEG
Public Consultation on Smart Grids
Response / contribution

In this note, we bring a contribution to 3 questions raised in the consultation paper. The intention is not to be comprehensive and exhaustive, but to draw the attention on some particular points.

1 Question 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 clear distinction is to be made between 'profit' and cost 'allocation'.

Profit is under review of the regulation. The profit is expected to reward the value actually added by the regulated companies. In this perspective the global revenues may be fixed according to ad hoc rules taking appropriate key performance indexes into account.

Another issue is to make the pricing for the network user. We mean: how is the global revenue allocated to the network users? In other words, what is rationale behind the conversion of global revenues into use of system charges?

If we think in terms of cost effective charges, we should go for formulas where the contractual power[1] at the point of connection is the key parameter. Why is the practice of use of system charges mainly linked to the distributed energy, which is not a real cost driver for the distribution system, so popular?
Our argument in favour of such a system is that this is the social facet of the service of electricity distribution. The user is incentivised to care for its energy consumption and on the other hand it is a way to provide the same service (contractual power) at a lower price for socially weaker users.

Is it understood in that way in the position paper?

[1] To be provocative: charges could be also partly related to the short-circuit power at the point of connection, which is a useful service where the network differentiates substantially from a micro-grid!

Even Consults
rue du Plagniau, 37
B 1330 Rixensart Belgium
even.consults@gmail.com
mobile + 32 (0) 475 280 973
BE 895 574 076

2 Question 6

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

Our concern is about this paragraph (in §3.2 of the consultation paper).

"TSOs and DSOs are the prime movers for the deployment of smart grids. Their task is to implement the network infrastructure that will allow the flow of both energy and information between customers, producers, suppliers and all the other grid users in the new smart grid framework."

This statement is bearing the idea that TSO's and DSO's are expected to deploy the complete communication infrastructure (from this point of view, the word 'network' is rather fuzzy since, for instance, internet is also a network) allowing the flow of information between all the actors behind the smart generation and use of electricity.

This is in the same vein as buzz sentences like "the smart meter is **the** communication gateway platform to the market"

For avoiding misunderstandings and consecutive inappropriate expectations, it should be stressed that TSO's and DNO's do not have to be the communication service providers for exchange of information between the suppliers/aggregators and their customers.

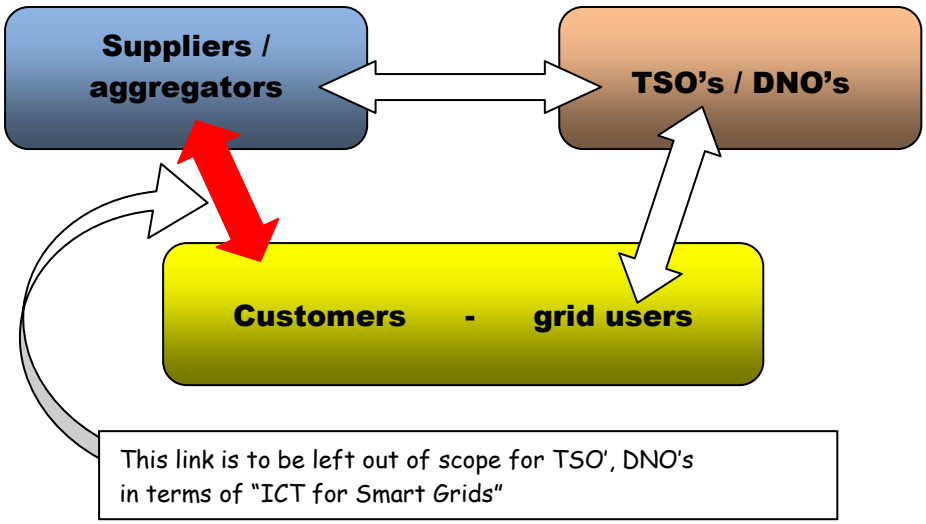
Example: an aggregator may want to drive the demand of its customers for reacting in real time on the market conditions. It is up to him to deploy the necessary technical means for achieving this and the DNO's should refrain from mixing up in the process (they ought to stay out of actions having consequences on the commercial results of the parties). Actions by the network and system operators shall be limited to those required for preventing the system to operate out of the technical limits.

TSO's and DNO's have to deploy[2] the communication channels between them and the grid users and between them and the suppliers and aggregators, but not between the suppliers/aggregators and their customers (see drawing).
Indeed, the communication between the supplier and their customer (e.g. for real time demand response) is entirely part of the liberalized activities and services; TSO's and DNO's should refrain to interfere there and rather leave an open field for commercial offering at this respect. It wouldn't be efficient to exclude the possibility for telecom service providers to fill this need.

A further comment is that the information exchange (content and interface protocol) between the DNO's and the grid users via the smart meters has to be carefully defined by regulation for creating a level playing field for the liberalized players.

[2] or simply open by using existing and quite efficient communication networks in some cases

Information exchange



The above may be somewhat mitigated for example by smart meters installing on demand of the supplier a specific parameter set for the time of use dependant metering. But this should be limited to a few standardised (we mean 'under regulation') requests or queries, with limited performance in terms of delivery speed.

Thereby we want to stress that the position expressed in the quotation here above goes too far in the direction of the network operators becoming responsible for all communication infrastructure used for the generation and use of electricity.

3 Question 11

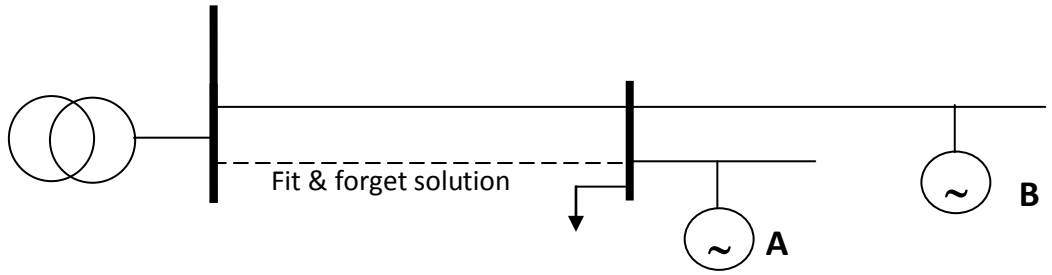
"Do you agree that regulators should focus on outputs (i.e. the benefits of smart grids) rather than inputs (i.e. the technical details)?"

We agree that regulators should focus on outputs. However, they should also pay attention to the rules of the games in the context of smart grids, in particular for creating a sound environment for active network management.

Illustration: the following drawing pictures a typical situation where a network is hosting a generation unit and a second one has to be connected. With 2 units connected, voltage problems start to occur, let say, there is a risk that during 10 % of the time the voltage exceeds the statutory limits somewhere on the network.

There are different solutions to the situation:

- Re-enforce (double) the upstream feeder, this is the "fit & forget" approach
- When the voltage is out of limit, curtail one of the generators.
- Apply any voltage regulation system (local intelligence or coordinated control) acting on the reactive and active power flows for keeping the voltages within limits.



In the active network management approach, at some moments the producers will be constrained by local congestions, to an extend that depends much on the place they happen to be connected. In this example, producer B has a high probability to work under constraint when producer A will likely never be constrained because he is connected closer to the primary station. As soon as B disconnects, the problem is fixed. **Is this fair?**

It is obvious that the DNO is the one who can make the appropriate decision whether a fit and forget (re-enforce[3]) or an active network management approach is providing the economically optimal option. But the question **is how to keep fairness** (neutrality, transparency) with respect to the network users when an active network management approach is taken.

Should the user receive financial compensation when he is impeded? Is an access contract with the provision that the capacity is guaranteed only for 95% of the time an acceptable solution?

Fixing the problem in the way congestions are solved at transmission level is no point for a 'market' with 2 players (in this example) to be run 3 weeks per year (5% of the time under constraint).

Note that the matter is quite different when a large number of network users can provide this kind of "ancillary" service. This is a niche market for aggregators.
But for the distribution system, the congestion may be just at the corner of the street and broadcasting pricing signals to an entire city is not the appropriate solution.

Active network management means that the DNO might take actions that hamper the normal working of the market. This raises the question of the limits imposed by the necessary neutrality and fairness of the DNO. This is certainly a matter for consideration by the regulation.

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[3] In many cases the fit & forget approach may still be the best one, including from a sustainability point of view: doubling the capacity of a circuit divides the losses by a factor 4!