CEER public consultation “The Future role of DSOs”

A EURELECTRIC response paper

February 2015

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We have committed to making Europe's electricity cleaner. To deliver, we need to make use of **all low-carbon technologies**: more renewables, but also clean coal and gas, and nuclear. Efficient electric technologies in **transport and buildings**, combined with the development of smart grids and a major push in **energy efficiency** play a key role in reducing fossil fuel consumption and making our electricity more sustainable.

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Europe's energy and climate challenges can only be solved by **European – or even global – policies,** not incoherent national measures. Such policies should complement, not contradict each other: coherent and integrated approaches reduce costs. This will encourage **effective investment to** ensure a sustainable and reliable electricity supply for Europe's businesses and consumers.

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KEY MESSAGES

- We have identified a number of core DSO functions activities including planning, developing, operating and maintaining the network infrastructure, ensuring system security, namely through contracting local temporary generation, managing network losses, switching a customer on a supplier request as well as owning and managing the metering equipment and handling of all data which are necessary for network operation purposes.
- In particular, it has to be pointed that some types of technical data handled by the DSO are not substantially different from commercial data (e.g. load curves of a single consumer can be considered technical data - the load curve could be collected for revenue protection issues - but can be also eventually used for commercial purposes by actors other than DSO - load curves could be used to propose new offers to customers).
- Existing unbundling requirements - if well implemented and enforced - are sufficient to ensure the development of new market services to customers. They are also an appropriate framework for the DSO to act as data hub. We do not believe that ownership unbundling is a better solution.
- Activities such as energy storage, local dispatching of local resources, provision of EV charging infrastructure, and implementation of energy efficiency measures related to the implementation of the Energy Efficiency Directive Article 7, or carrying out activities having an impact beyond the meter, but with no commercial impact are considered by CEER as non-DSO activities. We believe they can be allowed under specific circumstances and well defined conditions.
- Energy generation and energy supply are clear no-go areas for DSOs. Even if last resort supply is sometimes carried out by DSOs in Europe, we believe it should always remain in the competitive area.
- Even if we have tried to fit DSO activities into categories, today's reality is that a specific activity may be categorised as "not allowed for the DSO" in one country whereas it may be "allowed under conditions" in another country. In any case, regulators should leave room to reassign tasks if today's solutions do not fit tomorrow's demands. We believe there is "no one size fits all" model for the regulation of DSOs" in Europe, however we
- DSOs are regulated entities, and it is the NRA who defines the scope and limits of "public interest". We believe that undertaking CBAs is a good option before delegating new tasks to the DSO. However, when they are conducted by Member States or NRAs, it´s important that DSOs are consulted about the practicability and administrative effort related to the CBA. For DSOs to promote the most cost-efficient options, it is very important that regulators are capable of providing an adequate regulatory framework and consider the eventual additional costs which might result from a new service obligation.
- In any case, regulators should leave room to reassign tasks if today's solutions do not fit tomorrow's demands. Indeed, some activities not falling under the DSO responsibility today may well be assumed by DSOs in the future under certain regulatory conditions and vice versa.
- If current DSO obligations about some activities falling into the grey area were to be reassessed by regulators, we believe they should keep three principles in mind: the importance of a clear definition of the DSO role, the good functioning of retail markets, and the necessity to avoid stranded assets for DSOs.

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1. *Do you agree with these three core principles?*

Principle 1: The DSO must run its business in a way which reflects the reasonable expectations of network users and other stakeholders
Principle 2: The DSO must act as a neutral market facilitator in undertaking its core functions
Principle 3: The DSO must act in the public interest, taking account of costs and benefits

AGREE

Generally, we agree with these three principles. However, one key principle for DSOs is missing namely running its business to ensure security and quality of power supply.

Comments on Principle 1:

We would like to highlight that network users are not homogeneous and might have different requirements. It's the NRA's role to define what "reasonable expectations" stands for and arbitrate between requirements and needs as well as to establish fair rules for both network operators and network users.

Comments on Principle 2:

The evolution of energy markets implies a rising relevance to the role of DSOs as market facilitator. We clarify that the saying "neutral market facilitator" means that the DSO adopts a non-discriminatory behavior towards market players.

Comments on Principle 3:

DSOs are regulated entities, and it is the NRA who defines the scope and limits of "public interest". We believe that undertaking CBAs is a good option before delegating new tasks to the DSO. However, when they are conducted by Member States or NRAs, it´s important that DSOs are consulted about the practicability and administrative effort related to the CBA. For DSOs to promote the most cost-efficient options, it is very important that regulators are capable of providing an adequate regulatory framework and consider the eventual additional costs which might result from a new service obligation.

2. *What challenges would new forms of stakeholders (e.g. community or municipal energy schemes and ESCOs) bring to DSOs and to existing approaches?*

The question is very broad and quite vague therefore it is hard to draw a precise list of challenges.

Here is a list of potential new developments:

- Stakeholder pluralism will increase: with respect to typology (a new stakeholder could be a service provider, e.g. a recharge operator for EV) and size (e.g. community or municipal energy schemes). The presence of new stakeholders raises the need for a even clearer definition of roles, tasks and responsibilities of the different players in the energy system.
- New forms of stakeholders, the expansion of energy efficiency services and the use of system flexibility and demand response schemes may have an impact on the network. For instance, Demand Response might have a local impact due to synchronisation of local consumers. Therefore, the challenges for DSO will be to get familiar with these new potential effects, to develop new models and to integrate them into existing network tools to be able to protect safety, security and quality of supply.
- New initiatives in retail markets may also bring new challenges to DSOs. For instance collective switching means that DSOs have to be able to potentially switch thousands of consumers in very short time.
- Operations will become more complex due to the increased bi-directionality. Therefore, new approaches in planning and operation of power systems will be necessary to ensure security, safety and reliability of the grid.
- Expenses of maintaining security and quality of supply will rise together with the complexity of the electricity market, hence the need for ensuring the adequate cost recovery for DSOs

- The DSO neutral market facilitator role will gain importance as new services, new technologies and new market players are introduced. Therefore it has to be defined in a clear and transparent way by regulators together with DSOs and all concerned stakeholders
- The amount of information to be exchanged will increase enormously: more complex data exchange and greater need for data management.
- Costs of information exchange need to be covered. These new tasks increase operational costs and need to be taken into account in regulation.
- The need to develop more cost reflective network tariffs increases with more energy efficiency actions aimed at reducing energy usage, but not addressing peak power (thus not affecting DSOs costs).

3. *Do you agree with the proposed logical framework? Are there other important questions which should be included in the framework?*

DISAGREE

As stated correctly by CEER, we believe there is "no one size fits all model for the regulation of DSOs" and today the framework proposed may lead to different results in different Member States, depending on the existing conditions. So, today, a specific activity may be categorised as "not allowed for the DSO" in one country whereas it may be "allowed under conditions" in another country.

In any case, regulators should leave room to reassign tasks if today's solutions do not fit tomorrow's demands. For instance, there may be activities which are not falling under the DSO responsibility today but which could in the future be assumed by DSOs, under certain regulatory conditions and vice versa.

If current DSO obligations about some activities falling into the grey area were to be reassessed by regulators, we believe they should keep three principles in mind: the importance of a clear definition of the DSO role, the good functioning of retail markets, and the necessity to avoid stranded assets for DSOs.

Also, it would be useful that CEER proposes a list of non-binding principles at European level to define which activities can be undertaken by DSOs and under which circumstances.

4. *Do you agree with the proposed assessment of activities and are there any additional grey areas for DSOs other than those considered?*

DISAGREE

We disagree with the statements in the consultation paper on several discussed activities pleading for stricter unbundling rules. Existing unbundling requirements - if well implemented and enforced - are sufficient to ensure the development of new market services to customers.
We have some comments on a number of activities - please see our proposed table for categorization of DSO activities in the ANNEX.

Also, we believe Category IV should be removed as it overlaps with Category V.

A2: System security

Voltage control and reactive power management interacting with active users is missing from this activity.

A5: Managing network losses

This is a core activity of the DSO (Category I). Also, this activity is already included in activity G1 "Improve energy efficiency of the network" as energy efficiency of the network builds upon network losses.

B3: Contracting local temporary generation for the sake of continuity of supply

It is common practice today for DSO to deploy temporary generation for planned maintenance activities and also for restoring supplies during routine faults and *force majeure* outages. Contracting local temporary

generation allows DSOs to guarantee security of supply, so it should be considered as a core activity (Category I).

B5: Last resort supplier

A distinction should be made between default supplier and last resort supplier. The role of a supplier of last resort is to ensure continuity of supply should a supplier fail and, in some Member States, should a customer fail to pay their bill. A default supplier is generally there to supply and bill customers when a supply contract has not yet been explicitly agreed (e.g. when moving in a new house). In some countries like Belgium and the Nordics, the obligation of being the last resort supplier falls on DSOs, whilst it falls on suppliers in most other countries. In any case, we believe both roles should be forbidden for DSOs, therefore included in category V.

C2: Revenue protection action performed on suppliers' request

C3: switching a customer at a supplier's request

Those activities which are performed on supplier's request, including supplier switching, are already today being performed by the DSOs. This should be categorized as a core activity of DSOs (category I) as far as this activity consists mainly of actions which are related to other core activities as (F1) Owing and managing the metering equipment and (A1) Activities related to the (efficient) energy network infrastructure.

C4: Activities for commercial data handling

The definition of this category is unclear and can lead to confusion. We understand C4 as handling data that can be used for commercial activities.

EURELECTRIC supports a DSO data hub model. In this context, there is a difference between collecting and handling data (that can then be used for a variety of purposes including commercial purposes) which is the DSO role, and actually using this data for commercial purposes, which is the role of market parties.

We support data handling as a core DSO activity; however we wish to underline that using this data and processing it for developing new services is key for market players, not for DSOs.

For further details, please see our answer to question 6.

D1: Local dispatching of local resources

Voltage control, both through active and reactive power, is needed for DSOs to securely manage their networks at local level in presence of Distributed Generation.

Therefore, we would like to point out that this should be category II.

D2: Storage

Decentralised storage is not a natural monopoly. As a general rule, it should therefore be owned and operated by market actors. However, for very specific applications which cannot be provided by the market and which are exclusively used to ensure system security – thereby optimising DSOs' internal business operations, storage could be seen as a part of grid operators assets. These applications should of course not interfere with market arrangements and not hamper retail competition.
Therefore we agree with CEER that this should fit into category III, allowed under conditions.

E2: DSO role for the development of EV recharging points as well as NGV fuelling infrastructure

As stated above, in some EU countries, DSO are today in a situation of owning and operating public charging infrastructure as an extension of their regulated role. In the future, as the market matures and business case develops, it could belong to the competitive market area but for now there is a clear role of the DSO for kick starting the market. Therefore, this activity should be in category III.
Where member states decided that DSOs should be the provider and operator of EV recharging infrastructure, regulators should reassess this obligation over time in consultation with stakeholders

including DSOs. In any case, stranded DSO assets should be avoided. In other words, DSOs should keep the remuneration for the infrastructure investments already made, even if regulators decided to bring this activity up to the market competition.

F1: Owning and managing metering equipment
EURELECTRIC believes this is a core DSO activity, except in the UK and partly in Germany.

F2: Metering activities carried out by separate independent meter operators
The responsibility for meter data management will depend on the approach chosen at national level for owning and managing of metering equipment, which can be either in the DSO's hand or in the competitive area.

G2: Activities reaching beyond the meter
The definition of "beyond the meter" is very vague in CEER consultation paper.
If you interpret "activities beyond the meter" as the provision of commercial services, then this should belong to the competitive market and fit into category V (activity forbidden).
However, some obligations imposed on European DSOs today have an impact beyond the meter such as water boiler activation, and this should be acknowledged. This is why we support this activity to be in category III, allowed under conditions.

G3: Added services for energy efficiency
To implement the Energy Efficiency Directive Article 7, Member States need to apply an energy efficiency obligation on either distributors or retailers. This means that in some countries, DSOs might be involved in energy efficiency measures, for instance by providing general information to customers about their consumption but not with a commercial objective. In this case, their role should be defined in a way that it does not hamper retail competition and consistently with the principle of supplier as main point of contact. We agree with CEER that this should go into category III, allowed under conditions.

H1 offering services to telecom companies & H2 public electricity related services:
Such intervention could be allowed under the general condition that the surplus revenues from these activities will be returned to the customers as tariff rebate/reduction.

5. *For activities falling in category II and III, under which regulatory conditions could DSO intervention be allowed?*

Third Energy Package legal unbundling rules for DSOs as well as other existing legislation such as the consumer rights directive set the right regulatory conditions for the activities falling into categories II and III.

6. *Do you agree with the assessment of DSO access to data and data management?*

We wish to underline that current legal unbundling rules provided by the Third Energy Package are an appropriate framework for the DSO to act as data hub, if strictly implemented. We do not believe that ownership unbundling is a better solution.

Being a neutral regulated entity with no commercial interest in consumers' data, DSO is best positioned to act as a data hub, managing and storing grid data while providing third-parties non-discriminatory access to customer data. At the same time, it can ensure data privacy for the consumer, which is an essential safeguard for consumers and will enable consumer trust.

We note that there is a misunderstanding on the definition of commercial and technical data.

In particular, it has to be pointed that some types of technical data handled by the DSO are not substantially different from commercial data (e.g. load curves of a single consumer can be considered technical data - the load curve could be collected for revenue protection issues - but can be also eventually used for commercial purposes by actors other than DSO - load curves could be used to propose new offers to customers).

DSOs have the experience of managing the following data for instance:

- Network management data (power quality)
- Connection related data (technical connection parameters, grid tariff type)
- Usage related data (yearly forecasted customer usage profile, metering data at grid connection point, realized customer profile
- Customer identification data (name, address, data privacy consent, Customer supplier & BRP relation)
- Non-technical data (weather info, geo-data, energy poverty info…)
- Asset data

These data are used for congestion management, net planning, billing (network part), forecasting.
These data are also facilitated to other parties, namely to suppliers, which then process usage related data for billing, allocation, reconciliation.

Also, we wish to highlight that DSO access to smart metering data is essential in order to optimize the operation and planning of distribution network. Indeed, smart metering data enables monitoring status, load and voltage in the distribution network which can be considered as a core DSO activity. Therefore, the restrictions in accessing smart meter readings are a barrier for the DSO to fulfill its mission.

And without access to such data, implementation of the smart grid concept will be seriously hampered or cost will be increased due to investments in additional measurements. For instance, individual customer data is used in Network Planning. Moreover, it is not in the consumer's interest to restrict DSO access to metering data because the DSO as a regulated entity is ensuring that customer data is handled in line with data privacy requirements.

7. Risks of DSOs participating in "grey areas":

Do you agree that the risk of DSOs participating in some of the 'grey areas' (particularly flexibility and DSR) decreases the more separated a DSO's operational activities are from other competitive activities carried out by other companies within the same vertically integrated group?

DISAGREE

We would like to underline that grey areas often come from the fact that DSOs are put in a position to kick start markets and provide services related to their core functions or deriving from their societal obligations and for which there is no business case at the time of the task delegation to the DSO.

Third Energy Package legal unbundling rules for DSOs as well as other existing legislation such as the Consumer rights directive set the right regulatory conditions for the activities falling into the grey areas. Where these requirements are fully implemented and enforced, there's no risk when DSOs assume activities in the "grey areas".

Regarding flexibility and Demand Side Response, DSOs should be allowed to manage constraints resulting from the activation of flexibility by DR parties in real-time or close to real-time by procuring flexibility services or modifying any expected activation of flexibility.

8. *Do you agree with first considerations on the de-minimis threshold?*

No comments.

9. *A. Do you consider all the activities and topics described in this Chapter as relevant to further defining a regulatory framework for DSO-TSO relationship and responsibilities? B. Are any activities or topics missing in the DSO-TSO relationship discussion?*

A. Yes, the chapter comprehensively describes the relevant activities and topics on the DSO-TSO interface: Real-time grid operations (services, coordination, optimisation); balancing; forecasting; network planning and development; emergency and restoration; DSO-DSO coordination and regulatory changes. We appreciate that the need for more coordination between DSO-TSO at all levels, including procurement of system services as well as operation, is acknowledged, so is need for coordinated approach in network planning and development; and DSO-DSO cooperation. All those will be increasingly important in order to maintain the stability of the grid at optimal cost. The paper also seems to acknowledge that not all local flexibility services needed by the DSOs could be market based (due to local nature that could lead to dominant position) – this could be e.g. for reactive power/voltage control – and that those could be handled via technical requirements. These local services will not necessarily need DSO-TSO coordination.

B. Yes, additional points that we believe would be useful to be taken into account when thinking about the regulatory framework are:

- Security of supply, system integrity across both networks and DSO-TSO operational optimum that will enable most efficient operation of the whole system (in addition to the investment optimum). The model of a disaggregated supply chain can discourage the most optimum whole system solutions to be used. The 'whole system' benefits should be considered when contemplating any changes to the current regulatory model.
- DSOs should always be in control over the resources connected to their grid. TSOs should not give direct orders over distribution users.
- Power quality regulation: For instance, if sinus curve's distortions, flickers or fluctuation spread over the interface between transmission and distribution grid, the pre-defined remedial measures should be undertaken.
- Network maintenance and how to secure these actions without causing quality or congestion issues in current and future market environment. Maintenance actions need good coordination and co-operation from both DSO and TSO and this coordination should be further improved.
- The need for definition of system states in the DSO network. This is a prerequisite for integrating flexibility at DSO level into the market, especially to the balancing markets organized at the TSO level.
- In reality situations might exist where one DSO is connected to the TSO and connects additional DSOs in different layers via its grid. For instance a DSO operating only a (medium) low voltage grid ("second layer DSO") might be connected to a DSO operating a (high) medium voltage grid ("first layer DSO"). Under these circumstances experience from countries with many DSOs and a considerable penetration of DRES shows that cooperation can be successfully organized in a so called "cascade", i.e. the TSO coordinates its action with the "first layer DSO" who in turn coordinates its action with the "second layer DSO(s)".
- Cybersecurity issues.

10. *Do you agree with the description of the activities and topics in this Chapter? If not, what is your view on your specific activity or topic that is relevant for the DSO-TSO relationship?*

AGREE

In general we do agree with the description of activities and topics in this sector. However, we believe that there are several points in the text which could benefit from further clarification:

- Mentioned coordination of system planning and standardization are important issues to achieve efficiency, but in long term perspective, the key issue is that both parties need to have a similar view on how networks will develop, how fast and that regulation drives both TSOs and DSOs in the same direction. They have to have very good transparency of each other's development plans. This will allow to do network sizing correctly at once and to avoid additional network investments afterwards.
- The voltage control performed by TSO and DSO in a coordinated fashion (in the connection points, as indicated in point 2.1) is different from the voltage control referred to in question 4, which is local at distribution level and does not affect TSO. Reactive power flow limits should not be imposed at the TSO/DSO interface. Instead, the network operators have to identify where the voltage violation is, and then to compensate reactive power nearby. The TSO cannot play the role of the reactive compensation coordinator. Voltage services from distribution network users do not affect TSO. Any discussion around the provision of reactive power support to the transmission system across the TSO-DSO interface has to be seen in the context of the topologies involved.
- The paper reads that: *"The increase of network operators' use of telecommunication services will require greater coordination and even regulation in order to decrease costs and guarantee a proper cost allocation in vertically integrated structures (both OPEX and CAPEX) for the system. TSO-DSO sharing of telecommunication infrastructures requires specific interoperability criteria."* We believe that this differs between the countries depending on what kind of communication systems and practices in use. Anyway, it is very important that energy and telecom regulation supports communication solutions of all parties. If the same solution is selected for TSO and DSO then good coordination is needed.
- Not only NC on balancing addresses related TSO-DSO interface issues. Also NCs on system operation (Operational Security NC, Operational Planning & Scheduling NC) should be mentioned, not only Emergency and restoration NC.
- The point that *"in many European countries there is currently no consistent or systematic exchange of information between the DSO and TSO regarding DG and DERs"* could be misinterpreted as if DSOs did not want to provide this information. In fact, in some countries TSO seem to be reluctant to provide the information gathered from distribution network connected DER. In some countries this exchange was not yet needed up until now as the DER penetration was small. DSOs may not yet have this data from DER due to insufficient monitoring capabilities ("lack of smart grids") or the information is provided directly from DER to TSOs, i.e. DSOs are circumvented and often do not even receive the information from the TSOs. In some countries, DSOs that operate high voltage lines may already actively manage their grid today.
- All in all, it is of utmost importance that transparency between DSO and TSO is reciprocal.

11. *Do you agree with the statement that further regulatory guidelines may be required (in addition to current Network Codes) and if so, which regulatory guidelines do you consider necessary?*

DISAGREE

General provisions, mainly in the EU network codes that are being drafted or about to be adopted, are sufficient. We do not see a need for additional regulatory guidelines or another EU network code. In fact, we believe that certain provisions draft EU network codes should be reconsidered since the costs of their implementation may exceed the benefits for the society. Network codes should focus on cross-border issues. However, DSOs should be closely involved in the drafting, evaluation and amendment processes of the network codes.

If necessary, additional regulation should be developed at national level between the TSO(s) and DSO(s) taking into account national situations (one-size-does-not-fit-all).

12. *A. What, if any, are the particular or incremental risks attached to innovative and non-conventional investments? Do these warrant special recognition by NRAs? B. To which extent, if any, is this incremental risk borne by DSOs?*

A. The most important risk attached to innovative and non-conventional investments are regulatory risks (achievable rate of return, stable model, clear incentives), political uncertainty (what is the purpose with the regulation – lower costs for the customers or to enable more DER in the system) and technology risks (untested technology with risks for early phase outs & stranded assets).
Particularly higher penetration of IT will lead to shorter lifetimes of the assets compared to the conventional investment (e.g. smart meter compared to conventional meters). The amortization period is generally defined by the regulator and should imply higher risk of non-conventional investments. R&D increases the OPEX of DSOs whereas incentive regulation schemes focus on OPEX reduction.

B. Today, this incremental risk is largely born by the DSOs. The regulatory system focuses on average cost recovery at sector level'. Individual investments that exceed the average cost are not covered and lead to inefficiency. Inappropriate depreciation times lead to too long payback times for such investments and if the risk associated with the investment is not reflected in the regulated interest rates, DSO have a harder time attracting capital.
Taking this into account, regulators need either to provide specific funding for research and testing or to compensate within the regulatory framework the risks they are asking DSOs to take.

13. *A. Does the conventional focus on rate of return regulation on capital expenditure, and in some cases limited pass through of OPEX, have the effect of discouraging certain smart grid investments? B. What alternative approaches help incentivize DSOs to adopt smart grids?*

A. Yes. If the efficiency requirement is calculated on the basis of OPEX alone, DSOs may not have adequate incentives to pursue operational solutions but only to "put copper and iron in the ground." Smart grids and active distribution network management solutions may increase OPEX but can, in certain cases, be more efficient in the long run. However, the fact that the only new investments and not the whole regulatory asset base are controllable should be acknowledged. There are only very few countries where this issue is resolved (e.g. Norway).

B. DSOs should be incentivized to make the right investment choice that give the lowest overall cost of ownership, measured over sensible asset lives and not regulatory periods. The associated risks should be taken into account in order to enable smart grid investments in an efficient way:

- An appropriate and achievable rate of return on investments based on a full and complete assessment of risks based on a full and complete assessment of risks must be the backbone of regulation for enabling the necessary investments.
- RD&D costs should be removed from OPEX efficiency targets.
- Regulatory incentives such as innovation fund to support small R&D and larger demonstration projects should be supported.
- Shorter depreciation periods and higher returns on investments for projects with significant investment and business risk. R&D expenditures could be considered as 'pass-through-costs' up to an adequate percentage of the revenues of the grid operators.
- TOTEX benchmarking could be considered as a solution for some regulatory regimes but whilst is not suitable for others. It should thus be appropriately assessed before implementation.

14. CEER would welcome views from stakeholders on the pros and cons of output based incentives. Please also define for which regulatory incentives they might be appropriate.

We agree that output oriented regulation measured by a suitable criterion is conceptually sensible in a long term. It allows for clear identification of whether a pre-defined target was achieved and implementation of a reward/penalty scheme. It also does not discriminate between traditional and innovative investments and may also facilitate cross-sector synergies.

However, defining the right parameters and suitable performance criteria can be difficult in the short term due to the challenges with their measurement and verification as well as the currently ongoing changes in the value chain. Implementing an adequate output orientation still requires additional research, as suitable performance indicators that would be material, controllable, measurable, applicable and enforceable (as stated on p. 31) are hard to define. It is extremely difficult to find output parameters that are suitable for all kinds of DSOs (e.g. rural vs urban; differences in the tasks etc.).

It is vital that DSOs have the ability to influence the output which is measured by the criterion, that the incentives are consistent, e.g. smart grid investments must not reduce DSOs' measured efficiency, and that the system is flexible.[1] Output regulation should strike an appropriate balance between rewards and penalties. DSO should have high degree of controllability of the considered output parameters and be able to achieve the objectives and output levels set. It is relevant that NRAs consult DSOs on the practicability, the achievability, the linked effort and eventually to assess additional costs on the output parameters set by regulators.

15. Do you agree that to allow timely recovery of DSO revenues, assumptions on consumption patterns in tariff models could be updated within price control periods?

Network tariff structure set for price control periods are meant to provide revenue stability for DSOs and visibility for suppliers to build and sell their commercial offers. While DSO revenues should be (and in most countries are) rather independent of consumption levels, the size of customer base is important when determining how these revenues are collected. Timely collection of the allowed revenues, which is key for the DSO, is thus generally impacted by variability.

If short pricing periods (e.g. one year) are in place, there is in general no need for network tariff changes within this period, in particular in terms of network tariff structure. Short pricing periods can help achieve stable collection of the allowed revenue by the DSO and avoid great variations in costs for end-customers. They allow for mitigating errors in assumptions on consumption base and patterns that could otherwise have far reaching effects during the whole regulatory period.

In addition, NRAs should be encouraged to put in place compensation mechanisms to smooth revenue within a regulatory period without having to review the network tariff structure which would increase the uncertainty for the supplier. In some countries, the updates or ex-post reconciliation mechanisms are already in place today.

In markets where DSO bills the customers separately from the supplier, the DSOs should be allowed to keep the flexibility of changing the network tariffs more frequently and there should be no restriction on network tariffs changes.

[1] See EURELECTRIC report Regulation for Smart Grids, February 2011

We would also like to comment on Table 1:

- In addition to strength of economic signal to consumers and certainty of recovery for DSOs, "simplicity" for consumers should be assessed in the table.

- It assesses that for "flat rate consumption charges" there is a high certainty of revenue recovery possibility. We believe that in fact, it is rather "low" (unless an ex-post reconciliation mechanism is in place). This approach does not represent a good adherence to the true nature of network cost, thus putting DSO revenue adequacy at risk.

- In addition, the assessment of relevant 'hybrid' options, such as two-part network tariffs with capacity/power demand (kW) and energy (kWh) components should be also developed in the table.

16. How can ToU network tariffs be coordinated with system energy prices?

One of the targets of the DSO tariff structure development is to establish a pricing scheme for DSOs that encourages end-users to behave in the interest of the overall efficiency of the energy system. Time-of-Use (ToU) network tariffs (predefined fixed tariffs for predefined time intervals e.g. higher 'on-peak' prices and lower 'off-peak' prices) are already applied in some countries. New network tariff options such as dynamic network pricing schemes (tariffs that would vary at short term notice for certain time intervals) are being studied and need to be further investigated as it may incur higher complexity and implementation costs.

However, especially in cases when the DSO tariff constitutes only a minor part of the customers total electricity cost, ToU or dynamic network pricing may be insufficient to trigger the expected demand response reaction from customers. Other options, in particular contracts (see q.18), should be investigated for this purpose.

As regards coordination of ToU network tariffs with system energy prices:

- While ToU network tariffs could be developed to reflect global or local network conditions, ToU energy prices reflect the state of the system. When ToU network tariffs are applied, the price signals they provide might not always match the system (energy) price signal. Indeed, local constraint conditions are not always associated to system peaks, and this will increasingly be the case in systems where significant amounts of decentralized generation are connected to the distribution network. In systems with a high share of centralized generation there is a higher likelihood of price signals' correlation. Nevertheless, ToU network tariffs structures could be used as a basis for offers to be developed by suppliers. In many cases, suppliers will be interested to reinforce the price signal (energy and network) and bring it to the customer in a simple way. No further "coordination" is necessary; suppliers should always have the necessary flexibility to develop their commercial offers (see Q.17).
- Although one unambiguous price signal is the simplest for customers, in some countries in-home ICT systems show separately the network and the energy price signal to allow customers to arbitrate.

17. A. Are there circumstances under which suppliers should be required to pass through the distribution tariff signal to customers? B. If so, should there be regulation to ensure this happens?

A. No, such a pass-through obligation must not be imposed on suppliers. Suppliers should incorporate distribution network cost in their offers, but this does not necessarily mean that there will be a straight pass through of the price signals. While the pass-through of network price signals to the consumer may be a good option for some consumer segments, this may be detrimental for other types of consumers and leaves no room for innovation, competition or differentiation. Therefore, there should be always enough flexibility for suppliers to develop offers for different consumer segments and define their own

sales strategy. The existing competition will ensure that suppliers optimize both the energy price and the networks tariffs for the benefit of customers. It is important that customers' bills transparently show the breakdown of different price elements, including network price. In markets where DSO bills the customers separately from the supplier, there is no need for a pass through of distribution tariff signals to customers. The customers can arbitrate themselves.

B. No comments

18. Do you agree with the above assessment (in Table 2) of different cases when DSOs or other parties should have contracts or agreements with consumers and distributed generators?

DISAGREE

Since the market for DSR contracts has yet to develop and its economic and technical value must be better assessed, for now the regulatory framework should be as broad and flexible as possible. In that sense, leaving many options open is a positive aspect as long as security of supply, quality of service and network management principles are ensured.

DSOs should procure commercial DSR services in a transparent and non-discriminatory way, through market agents such as suppliers or aggregators. These DSR providers will contract with customers for flexibility services. In that sense there is no need to make a difference between the contract with an aggregator and the contract with a supplier; in this case, they both act as DSR providers.

This principle should be respected whenever competition is possible and technically feasible. Direct contracts between the DSOs and the customers should be possible in defined specific cases, for example:

- Emergency issues: network security and eventual demand/generation curtailment in stress situations must continue to be assured by the DSO. In some rare cases fulfilling the strict requirements defined in the DSO general terms of contract, for example in a case of a power shortage, the DSO has to be able to manage customers' loads directly.
- Situations when only specific customers can help solve local issue in the DSO grid and market agents are not able to offer the required flexibility services to the DSO.In this case, the supplier and the BRP should be informed and compensated if any cost is incurred due to the DSO's action. DSOs should be able to recover the costs associated with implementing constraints management.

Additional comments on Table 2 and section 3.5:

- This part seems to mix, in a very confusing way, network tariffs, retail tariffs and additional DSR contracts. More work is clearly required on the clarity of the concepts and on the contract descriptions.
- Regulated contractual arrangements such as direct load control or load capping may provide a firmer basis for delivery of DR services at DSO level than network tariffs. As a general rule, these services should be procured through DSR service providers.
- Number of contracts should be as low as possible. If adequate, merged contracts for more than one service should be used.
- DSOs carrying out data management activities should not be prevented to design ToU network tariffs. DSOs carry out data management activities under strict regulatory oversight; DSO regulation and the Third Package already enforce DSO independence and non-discriminatory behavior.

19. Which type of regulatory controls should be adopted by NRAs for DSOs, in cases of contractual arrangements falling under categories II and III?

Proper implementation of existing EU legislation (the Second and the Third Energy Packages) is key in order to allow DSOs to contract for DSR. Regulatory supervision of DSO contracts to protect service providers (customers, suppliers, aggregators) are important but overregulation should be avoided not to put in place additional barrier to innovation in this area.
In addition, cybersecurity measures need to be addressed.

Activity	**Activity description**	**Category I** DSO core function	**Category II** Allowed under conditions (no competition)	**Category III** Allowed under conditions (potential competition but special reason for justifying DSO participation)	**Category IV** Not allowed (potential competition and no special reason for justifying DSO participation)	**Category V** Activity forbidden
A1	Energy network infrastructure	X				
A2	System security	X				
A3	Gas quality checks	X				
A4	Data Management of technical data	X				
A5	Managing network losses	X				
B1	Energy generation					X
B2	Energy supply					X
B3	Contracting local temporary generation for continuity of supply	X				
B4	Beyond the meter activities in case of gas emergencies			X		
B5	Last resort supply activity				X	
C1	DSO relationship with retail suppliers	X				
C2	Contact with customers for revenue protection upon request of supplier	X				
C3	Switching a customer on a supplier's request	X				
C4	Data Management for commercial activities	X				
D1	Local dispatching of local resources		X			
D2	Energy storage			X		
E1	Non-discriminatory operation towards other owner or operator of EV charging infrastructure	X				
E2	DSO role for developing EV recharging points & NGV fuelling infrastructure			X		
F1	Owning and managing the metering equipment	X				
F2	Metering activities carried out by separate independent meter operators					X
G1	Improving network energy efficiency	X				
G2	Activities reaching beyond the meter			X		
G3	Added services for energy efficiency			X		
H1	Offering services to telecom companies			X		
H2	Public electricity related services			X		
H3	Other energy relates services such as district heating			X		
H4	Sharing smart metering infrastructure			X		
I1	Customer data management	X				
I2	Data collection for system security	X				

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