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Position paper

on the CEER Consultation „The Future Role of DSOs “

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Introduction

The German Association of Energy and Water Industries (BDEW) represents over 1,800 members of the electricity, gas and water industry. In the energy sector, BDEW represents companies active in generation, trading, transmission, distribution and retail.

BDEW welcomes the opportunity to comment on the CEER public consultation paper "The Future Role of DSOs" dated 16 December 2014. The paper continues the discussion raised earlier in 2014 by the draft working paper "A bridge to 2025" which was finalised in September 2014. From BDEW's point of view, the role of the DSOs will change over the next decade, due to significant changes in the structure of the energy systems. Therefore, it is of utmost importance that regulators present their views on the future role of DSOs and all other market roles involved in tomorrow's energy markets and to exchange these views with the stakeholders.

In the present paper, BDEW presents the view of its members on the questions at stake and is to your disposability for future debates.

BDEW key messages

- As neutral and well regulated entities Distribution System Operators (DSOs) already today provide their share to facilitate the market and to ensure a non discriminatory and transparent level playing field for all market parties. This will continue to be their prior task in the future energy systems.
- Clearly defined responsibilities of the different market roles combined with a set of mandatory market rules defined on national level describing the interactions between the actors are the prerequisites for functioning competitive energy markets in which the DSO is an important, neutral entity interacting with Transmission System Operators (TSOs), other DSOs, suppliers, aggregators, generation facilities and end consumers of energy. These roles and market rules have to be described to fulfil at its best the consumers interest in a safe, secure and affordable energy supply. If needed a transparent process for the assignment of upcoming tasks and related responsibilities shall be started with the affected stakeholders to ensure the overall system security.
- Due to more distributed generation, active consumers and new kinds of storage facilities, tasks of the DSO will become more complex. In Germany, already today a high amount of remedial actions for system security take place in the distribution grids. Therefore, system operation requires closer cooperation with TSOs, resulting in intensified information exchange processes, in particular between DSOs and TSOs. DSOs need all necessary operational data from connected distributed generation, active consumers and new kinds of storage facilities to guarantee secure the grid operation on a local basis while TSOs need these data to ensure the overall system security.

- The unbundling requirements of the European internal energy market directives (Second and Third Energy Package) are an important instrument to provide for a level playing field. Provided they are fully transposed, correctly implemented and strictly enforced at national level, – as in Germany since 2005/2011 – they ensure non-discriminatory network access and market functioning on wholesale and retail level. Confidentiality obligations (informational unbundling) and unbundling of accounts are binding for all network operators without any distinction or exception. There is no need for new unbundling requirements or amendments to the existing de minimis rules. By contrast, experience with existing unbundling shows that stricter unbundling rules may also cause unnecessary restrictions especially for finance investors as already identified by the European Commission.
- The regulatory European framework of technical and organisational rules codified in the Network Codes is an appropriate set of rules building the basis for making the internal energy markets work. As defined in the Internal Energy Market Directives, these rules shall focus on aspects concerning cross-border network issues. For all processes without direct relevance for the cross-border grid security, rules should be developed on a national basis. This enable each country to adopt the measures which best suit its specific situation. There is no need for further regulation on the European level.
- Introducing systems to incentivise consumers to offer flexibilities will require a sound set of rules defining the different roles and responsibilities of DSOs, suppliers and other actors like aggregators. Decisions on technical solutions should be based on well-balanced analyses of societal costs and benefits. Regulators shall refrain from codifying requirements for consumer pricing since this falls into the area of competitive market activities. Regulatory intervention in functioning energy markets should only be the last option.

Section 1: The role of the DSO and need for regulatory oversight

Subsection 1.1: Principles for DSOs

Question No. 1. Do you agree with these three core principles?

BDEW fully agrees with the three principles. DSOs are the players which already today facilitate the market and provide a non-discriminatory and transparent level playing field for affected market parties. A non-discriminatory network access for all market participants as well as market functioning are ensured by a sound regulatory framework. In the view of BDEW, the present unbundling requirements combined with a high degree of compulsory automation of workflow processes like supplier switching and data handling guarantee that DSOs can assume their role successfully and thus bring the highest benefit for a competitive market, for customers and the public.

Question No. 2. What challenges would new forms of stakeholders (e.g. community or municipal energy schemes and ESCOs) bring to DSOs and to existing approaches?

More complexity for existing DSO activities

Already in the existing energy market, DSOs act as "market facilitators": they provide grid access, manage energy data and exchange them with market actors, and run processes like supplier switching. In doing so, DSOs enable the competition between market actors in the competitive areas. Thus, these DSO tasks are necessary for the functioning of efficient European energy markets. With more market players entering the markets in the future – e.g. small generating units in the electricity sector – DSO tasks will become more challenging.

Allowing for new services with positive cost-benefit ratio

The current debate on the need for new flexibility options, above all in the electricity sector, shows that the introduction of new functions or "market roles" to today's downstream market design is a most probable political option. BDEW holds the view that any new requirement to DSOs to offer certain elements (processes, data, etc.) should only be introduced where a market exists or would easily develop which would need these elements and which would bring a positive societal cost-benefit ratio. However, new requirements to DSOs tailored to meet the needs of only very few stakeholders shall not be established since they would impose undue costs not only to DSOs but to the society as a whole. Regulation policy shall refrain from such measures and prevent new societal costs in the energy markets. Business models should be profitable on their own and not because they are de facto supported by using regulatory loopholes.

Another category of new "services" which can be detrimental to the entirety of grid operators and grid users are businesses that aim at reducing individual costs for grid usage but do not

have positive effects for the network. This is the case with services helping grid users minimise their network tariff charges by means which do not reduce the need for infrastructure provision on the DSO's side. Such grid users – e. g. consumers with own production capacity in the electricity sector – use the network infrastructure rarely or to a limited extent but make use of it intensely in certain times. In regimes with kWh-oriented network tariffs these grid users pay little for the network infrastructure but do not contribute to a reduction of network costs. As a reaction to such "services" the network tariff structures should be rethought, considering a stronger capacity-orientation.

One area where new functions or services are likely to bring positive cost-benefits results is an extended use of flexibility options on the demand side. Suppliers, large consumers or new market participants are expected to provide demand side flexibility more extendedly than today to support the DSOs to optimise the grid infrastructure and to cope with critical grid situations. Yet, this "demand side response" (DSR) can only be offered if the market players are provided for with data on the network's state by the DSOs. Thus, DSOs will have to carry out new tasks in the field of data management and communication with other players. They will have to generate and process grid data (e. g. current and upcoming energy feed-in, current and upcoming energy use) and send these information or signals to the market players to trigger the DSR action fitting to the grid's needs. For these measures to work effectively and efficiently, BDEW would recommend to introduce a system based on the traffic-light-concept as presented by BDEW.[1]

An active demand side response system would also imply that DSOs trace the stakeholders' actions – not only for operational reasons, but also in order to prepare the remuneration of the stakeholders' services.

Intensified DSO-TSO cooperation

For DSOs, not only the interactions with users connected to their own grids will become more complex, but also the cooperation with TSOs. In the electricity sector, with the share of decentralised generation rising, the DSOs' needs shall be taken into account to ensure a secure grid operation. This implies that the bidirectional information exchange with TSOs on the overall system state has to be intensified.

DSO-support for well-balanced political targets

If, in addition to the above mentioned measures, DSOs are legally obliged to carry out tasks which are designed to achieve certain political targets, this makes their business even more complex. In the view of BDEW, political targets and resulting tasks defined by different political entities (European, national, regional, municipal legislation) shall be in line with each other and be shaped in a reasonable way, such that the market player addressed by the new tasks

[1] See step 1 "Separation and interaction of market and network " in the BDEW Roadmap "Realistic Steps for the Implementation of Smart Grids in Germany Eurelectric", 11 February 2013, online available at https://www.bdew.de/internet.nsf/id/816417E68269AECEC1257A1E0045E51C/$file/Endversion_BDEW-Roadmap_englisch.pdf

– in this case the DSOs – can carry them out without negative effects to their existing businesses.

Cost-recovery

When new tasks are assigned to DSOs, DSOs shall be entitled to recover the costs resulting from these tasks from the network users.

Subsection 1.2: Framework

Question No. 3. Do you agree with the proposed logical framework? Are there other important questions which should be included in the framework?

Generally, BDEW supports the differentiation between DSO core activities, activities in the field of competition, and a "grey area" of activities which have to be considered in more detail. Such a logical framework can be a suitable tool to assess whether an activity should fall into the DSO's responsibility or not. BDEW would like to propose only some minor refinements to the framework presented. From a semantic point of view BDEW would like to suggest replacing the expression "grey area" since it could be misleading. Instead, these categories could be summarised as the scope of action for national regulatory authorities acting in accordance with the principle of subsidiarity.

CEER acknowledges existing regulatory conditions in Member States, saying that applying the framework to a certain activity may lead to different results in different Member States, depending on these existing conditions (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). BDEW explicitly welcomes that CEER takes existing regulatory conditions into consideration. European legislation should refrain from introducing "one-size-fits-all" solutions when setting frameworks for tomorrow's energy market design. The principle of subsidiarity should apply in this field, that is, the categorisation of activities should take place on the national level.

Yet, having the new challenges of the future energy system in mind, there should be left room to reassign tasks if today's solutions do not fit tomorrow's demands. There may be existing non-DSO activities which could in the future be assumed, under certain conditions (regulatory oversight), by a DSO. On the other hand, there may be existing DSO activities which are not necessarily monopoly activities, or need regulatory oversight if left to the DSO. The framework presented, however, categorises existing activities from the very beginning as either "DSO Core Activity" or "Not allowed for DSOs". From BDEW's point of view the presented framework shall be kept more open especially for upcoming and new tasks. If needed a transparent process for the assignment of responsibilities shall be started with affected stakeholders including TSOs so that the most efficient ways to serve customers' interests are realised while the overall system security is ensured.

Once the "core activities" are defined as described above, the criterion "openness to competition" as proposed by CEER is suitable for categorising all other activities.

Subsection 1.3: Activities of DSOs

Question No. 4. Do you agree with the proposed assessment of activities and are there any additional grey areas for DSOs other than those considered?

BDEW widely agrees with the categorisation of activities, taking the logical framework as given. However, some refinement of this framework could be recommendable (see below). For some special activities, BDEW would like to add some comments.

For any new task assigned to the DSO it has to be guaranteed that the DSO is allowed to gain an adequate rate-of-return on the capital expenditure which is needed to fulfil the task.

Refining the logical framework to make the categorisation clearer

As a general remark, one refinement of the logical framework seems recommendable: As described in the answer to question no. 3, also for existing activities it should be assessed whether they fall into the "grey area", and if so, into which category. There may be existing DSO activities which could be allowed for DSOs only under certain conditions or others that should be open to other players; and there may be existing non-DSO activities which could be assumed by DSOs in the future.

It is questionable whether a categorisation as presented in chapter 1.3 and annex 4 can apply to all Member States for all activities described. As CEER rightly states, existing differences in legislative or regulatory conditions in Member States should be taken into consideration. For example, the German NRA assigned the activities supplier switching, customer disconnection on behalf of the supplier, and validation of meter data to the DSOs. Following the logical framework presented, however, these activities would be allocated for Germany to category I (core activity), whereas in chapter 1.3 and annex 4, they are (rightly) considered to fall into category II, III, IV.[2] This problem will be solved if existing activities are not automatically assigned to categories I or V, but if they also undergo the "openness-to-competition-check" (currently step 2 in the logical framework).[3]

Existing and evolving DSO core activities

BDEW widely agrees with the activities A1 to A5 as DSO core activities, taking the given logical framework for the categorisation.

As for "gas quality checks" (activity A3), BDEW wants to remind that this is not solely a DSO task. Usually, the TSO is responsible for controlling that the gas quality complies with the

[2] In the paper, these activities fall under "Activities performed by DSOs on supplier's request, including customer switching" (C3) and "Activities for commercial data handling" (C4).

[3] With this refinement, the logical framework would assign the activities "supplier switching", "customer disconnection on behalf of the supplier ", and "validation of metering data" from the German example to categories II or III. This is correct as German DSOs run these activities under regulatory conditions defined by the NRA.

standards fixed by the Member State when importing gas via an interconnection point. Normally, this quality check on the TSO level is sufficient to ensure the gas quality in the whole network area. The responsibility of the DSOs can be limited to checking whether the quality of the gas injected into their grids (at biomethane or Power-to-gas plants) correspond to the gas quality standards in the grid.

Activities assumed by market parties, unbundling requirements

BDEW agrees that the energy generation (activity B1) and energy supply (activity B2) clearly are outside the field of DSO activities, but are organised by market parties. In this context CEER states that "Ownership unbundling ensures that the neutrality of the DSO is an underlying feature in the delivery of all DSO activities" (chapter 1.3.2). BDEW is deeply concerned that this statement can be misinterpreted such that ownership unbundling would be necessary to ensure the DSO's neutrality. BDEW strongly disagrees with such a conclusion since there's no proof for it. Instead, the neutrality of DSOs is being guaranteed by full application and national enforcement of the existing unbundling rules of the internal energy market directives stemming from the Second and Third Energy Packages. The German example shows that these elements, along with mandatory rules for processes such as supplier switching, are the key prerequisites for non-discriminatory network access and market functioning on the wholesale and retail level.

Summing up, BDEW sees no proof why additional unbundling measures, like ownership unbundling, should be considered since they would not bring additional effects compared to unbundling regulation as currently in place.

Data Management

With regard to the handling of different types of data, CEER presents different approaches: "Technical data management" (activity A4) and "Data collection for system security" (activity I2) are considered to be DSO core activities. BDEW fully agrees. By contrast, CEER categorises "Activities for commercial data handling" (activity C4) and "commercial data management" (activity I1) in the "grey area" (categories II / III / IV, see annex 4), saying that this "can be an important role for DSOs in many countries" (chapter 1.3.4).

BDEW doubts whether a clear-cut differentiation between "technical data" and "commercial data" is possible. There are data which from their nature would fall under "commercial data" but are also needed by DSOs, some of which are even generated by DSOs. One example are substitute values needed for accounting purposes in the case of lacking measured values. In addition, it remains unclear whether the data coming from smart meters can be clearly assigned to "commercial" or "technical data". From BDEW's point of view, the responsibility for meter data management will also depend on the approach chosen for the owning and managing of metering equipment, which can be either in the DSO's hand or in the competitive area (activities F1 or F2, respectively).

Regarding the target to enable the DSOs to best use the existing grid infrastructure, it is questionable whether a differentiation between "technical data" and "commercial data" makes sense at all.

Summing up, BDEW recommends elaborating in more detail which tasks could be assumed by DSOs and which tasks could be left to other market roles in the field of data management. BDEW is looking forward to the publication of the final "CEER Advice on Data Management for Better Retail Market Functioning" announced for early 2015 (see chapter 1.3.4 of the paper).

System services

BDEW fully agrees that close collaboration and interaction between DSOs and TSOs is of utmost importance. In the electricity sector, as a result of the growing generation capacities connected to distribution grids, DSOs will face higher efforts to cope with their responsibility for security in their grids. In this context, local dispatching of local resources (activity D1) is one example of a concrete activity taken by DSOs. Of course this has to take place in close cooperation and with agreement of the connected TSOs. In any case it is an activity in the field of system operators and thus has to be assigned to category I "DSO core activity". For the procurement of the dispatching activities, the principles of transparency and non-discrimination have to be applied as is the case in TSOs procurement for system services today.

CEER states that, in electricity, "the role of DSOs in storage (D2) should be limited to the use of specific grid-oriented services" (chapter 1.3.3). BDEW agrees that storage services should in general be offered by market parties to fulfil balancing services and congestion management asked for by TSOs. If not needed for these purposes DSOs can use these services for their purposes to optimise the operation of the existing grid infrastructure. BDEW supports CEER saying that "[T]he DSOs' role in storage will be considered again, once a market is properly developed for local, grid related services" (chapter 1.3.3).

Alternative Fuels Infrastructure

CEER cites from the "Alternative Fuels Infrastructure Directive" (AFID) that DSOs will have an important role for the development of EV recharging points as well as NGV fuelling infrastructure. Regardless of the charging point ownership, system operators have to be granted access to those data needed for safe grid operation.

Other aspects

Regarding activity C1 (DSOs must have a relationship with retail suppliers) we would like to add that the DSO – by definition – never has a *competitive* commercial relationship with any customer. Being a regulated entity, these arrangements are not of competitive but of regulated nature.

Question No. 5. For activities falling in category II and III, under which regulatory conditions could DSO intervention be allowed?

The regulatory conditions have to be designed such that the neutrality of the DSOs is guaranteed, that is, the DSOs treat all market actors in a non-discriminatory way and do not use in-

formation they dispose of due to their monopolist activities to grant competitive advantages to market actors. In other words, the regulatory conditions have to ensure that the principle no. 2 presented by CEER (see chapter 1.1) is fulfilled.

In the view of BDEW, the existing regulatory rules, that is the unbundling rules stemming from the internal energy market directives, when fully applied and enforced by the NRAs, are sufficient to ensure this. There is no need for further unbundling requirements. Where these existing unbundling requirements are fully implemented and enforced, there's no risk when DSOs assume activities falling into the categories II to IV of the presented framework (so-called "grey areas"; for a proposal for a re-wording see answer to question no. 3).

Apart from these areas where regulatory oversight is necessary, BDEW believes that the future challenges in the energy market should first and foremost be tackled by market-based approaches. Regulatory interventions should only apply in substantively justified cases, for instance to overcome market failure in fields relevant for security of supply. Therefore, any new regulatory instruments should only be introduced after a careful assessment of its necessity and implications.

The interactions between the market roles active in the retail market are best described in the BDEW proposal for a "traffic light system" which ensures clearly defined responsibilities and supports the transition of the energy market. Following this approach, the existing competition will ensure that as a general rule suppliers/aggregators optimise both energy and use of the grids for the benefit of the customers. In exceptional cases, when a potential or actual grid congestion is detected, the system operator responsible for the respective grid area should be allowed to intervene on the basis of the rules described for the "yellow state" of the "traffic light system": the system operator can demand the necessary actions (e.g. rise in energy consumption or decrease in energy feed-in) from market actors who offer such flexibility services based on their related contracts. These contracts must respect the general framework for the prohibition of multiple sales and possible interference to ancillary services/congestion management by TSOs. In case of urgent congestion situations (in the red state of the "traffic light system") the DSOs must be able to intervene. As a general rule the management of flexibilities should be in accordance with the balancing responsibility of the balance responsible parties and the responsibility of the TSO for system security.

Subsubsection 1.3.4: Access to data and data management

Question No. 6. ***Do you agree with the assessment of DSO access to data and data management?***

Subsection 1.4: DSO separation

Question No. 7. ***Do you agree that the risks 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?***

From BDEW's point of view the existing unbundling requirements are sufficient to assure that DSOs treat all market actors in a non-discriminatory way and that the principles laid down by CEER in the beginning of the paper are fulfilled. Where these existing unbundling requirements are fully implemented and enforced, there's no risk when DSOs assume activities falling into the categories II to IV of the presented framework (so-called "grey areas"; for a proposal for a re-wording see answer to question no. 3).

A non-discriminatory network access for all market participants as well as market functioning are provided for most effectively and efficiently by accompanying the present unbundling requirements with a high degree of compulsory automation of workflow processes like supplier switching and data handling. Therefore, instead of rethinking unbundling models for DSOs – which would cause yet another costly and inefficient restructuring of business undertakings – more emphasis should be placed on clear common national market rules i.e. data exchange processes / data formats and data content as well as related time frames. These rules should be mandatory for all market participants, as this will foster the market. For the near future BDEW does not see the necessity for a European wide harmonisation of data processes and data formats as the costs would by far outweigh the benefits.

Question No. 8. ***Do you agree with the first considerations on the de-minimis threshold?***

CEER states that "if a DSO is carrying out activities identified as 'grey areas', it should be subject to strict unbundling requirements regardless of whether or not it is subject to the de-minimis rule". In the view of BDEW a regulatory framework has to assure that DSOs treat all market actors in a non-discriminatory way. To achieve this, however, there is no need for stricter unbundling rules than those of the Second and Third Energy Packages if fully implemented. As described above, these existing unbundling requirements accompanied by mandatory regulatory rules for the automation of workflow processes like supplier switching and data handling are the best guarantee for equal treatment of customers by DSOs.

Therefore, instead of reconsidering whether the current de-minimis rule is still appropriate, as proposed by CEER, more emphasis should be placed on clear common national market rules i.e. data exchange processes / data formats and data content as well as related time frames (see also answer to question no. 7).

Section 2: DSO-TSO relationship and responsibilities

Question No. 9. ***a) Do you consider all the activities and topics described in this Chapter 2 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?

From BDEW's point of view, this chapter presents a complete description of the activities and topics which are relevant for the DSO-TSO relationship in the electricity sector as well as for the relationship between DSOs whose grids are directly connected. BDEW welcomes that CEER discusses this topic in detail in this paper since it makes clear that the rising number of distributed generation (DG) influences the relationship between electricity DSOs and TSOs and their respective responsibilities and, in the end, is an important aspect for the definition of the future role of DSOs.

BDEW agrees that a well structured, systematic information exchange between network operators is key to ensure network stability. In this context, BDEW regards as sufficient for optimal system operation processes if those network operators (regardless whether they are TSOs or DSOs) whose grids are directly coupled stand in close cooperation and coordinate their activities. In practice, if a TSO needs measures to be performed also in low or medium voltage grids which are not directly connected to the TSO, the respective network operator is informed and instructed by the overlying network operator who is directly connected to the TSO grid. This "cascade" ensures that every network operator is informed about measures taking place in his own grid and "below". In this way, the core responsibility of each network operator for its own grid, as laid down in Article 25 of Directive 2009/72/EC, is respected.

In the view of BDEW there is no need to define a further regulatory framework for the interactions and the division of responsibilities between TSOs and DSOs at the European level. BDEW supports the approach intended in the internal energy market directive to codify on a European level rules which are necessary to cope with cross-border network issues. The set of network codes which have been developed over the last years covers these issues and even goes beyond them in certain cases. However, for all processes without direct relevance for the cross-border grid security, rules should be developed on a national basis. This enables each country to adopt the measures which best suit its specific situation. In Germany, with regard to technical issues the established solution of industry self-regulation has proven to be appropriate to cope with the challenges resulting above all from the intensely growing distributed generation. A neutral body (VDE FNN) coordinates the discussions which are open to all involved stakeholders. Organisational issues like data flows, data formats and timelines for data exchanges to and between TSOs, DSOs, and generators are fixed in ordinances adopted by the German NRA. For the preparation of these ordinances, the branch, coordinated by BDEW, offers its experience.

BDEW would welcome if CEER also added considerations on the relationship and the division of responsibilities between gas network operators. Companies operating gas infrastructure in Germany also face considerable challenges in the upcoming years, e. g. shifts in gas

flows resulting from dynamic markets in economically prosperous areas and less demand in other regions. Another point is the market conversion from L-Gas to H-Gas in the north-western part of the country. For these and other aspects regulation has to provide a framework which allows for network operators to invest where necessary and to run their systems as efficiently as possible. In Germany, to date this is assured by a set of rules which is elaborated by the energy industry and approved by the NRA. This approach enables stakeholders to bring their experience into the process from the very beginning so that the best result for the society can be reached. This example could serve as a blueprint for other countries facing similar challenges as Germany.

Question No. 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?

BDEW supports the idea that a stronger integration of DG in system operation is needed. However, as said before, this also implies that the DSOs running the grids to which DG units are connected are involved in system operation. The need from TSOs to act directly on generators connected to the distribution grid needs to be further assessed and developed between DSOs and TSOs, as this bears the risk of interfering with the network responsibilities of the DSO. In addition, the existing hierarchical structure of the grids like the “cascade system” in Germany as well as the information exchange system currently developed (“Energieinformationsnetz”) shall be respected. If the TSO requires services from DG at distribution level, such services if temporarly necessary either have to be prequalified (meaning the action does not interfere with the DSO’s needs) or if important for the security in the distribution network the services shall be requested by the TSO and agreed upon by the DSO (e.g. local services such as reactive power). Undoubted, organising system services at local level bears the risk of leading to local monopolies with high prices (chapter 2.1, part “optimisation”) if only few customers of the local grid can offer the services concerned. This risk is reduced if minimum technical requirements for the connection of distributed energy resources are in place. BDEW supports CEER’s idea in this regard.

In addition, it should be taken into account that DSOs can help reducing their need for network expansion through the retrieval of flexibilities of renewable energy producers as well as consumers, thus ensuring a more efficient operation of their networks. This means that DSOs make use of another option for planning their grid. Consumers can benefit from this option by reduced costs.

With regard to local balancing, BDEW sees need for further discussions to bring in line the idea proposed by CEER with the aim to support imbalance netting and the cooperation of national balancing regimes on a pan-European level according to the ACER Framework Guidelines on Electricity Balancing.

Question No. 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?

On a pan-European level, general provisions should be established which lay the basis for a well-functioning of the integrated European energy markets. The network codes currently developed by ENTSO-E and ENTSOG cover the relevant topics for which pan-European rules are needed. As stipulated by the underlying directives and regulations from the Third Energy Package, European guidelines should focus on cross-border issues. BDEW does not see a need for additional regulatory guidelines or rules on the European level. New technical or market developments may require adapted rules in the future. This shall be dealt with in the revision processes of the existing network codes.

Additional regulation may need to be developed at national level between the TSO(s) and DSO(s) taking into account national situations. As described above (answer to question no. 9), Germany is well equipped with processes both for the development of technical rules (industry self-regulation) and the adoption of organisational regulation by the NRA. Since all relevant stakeholders are involved in these processes, they best fit market needs and are thus highly accepted by market participants.

Section 3: Economic signals for DSOs and customers

Subsection 3.1: Price control related incentives

Question No. 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?***
To which extent, if any, is this incremental risk borne by DSOs?

CEER is right saying that there are particular and/or incremental risks attached to innovative and non-conventional investments. With such type of investments, network operators are in uncharted waters and the longer term effects are unknown at the time the investment is made. The risk for the DSO, from a technical point of view, is that it can be expected that part of the new technologies that are offered to DSOs at a certain point of time will not fulfil the expectations, i.e. they "fail" in real life application. From a financial point of view, DSOs assume the risk that, usually, the regulatory framework for the refunding of expenditures for new technologies is not yet set when the investment takes place. This additional risk incurred has to be compensated as otherwise innovative technologies will only be deployed in a few isolated cases.

With more investment in smarter technologies, the investment portfolio of a DSO changes. DSOs invest more in assets with shorter average lifetime than before (e. g. ICT equipment instead of more traditional DSO investments like cables). Along with this, operational expenditures (OPEX) typically rise while capital expenditures (CAPEX) decrease. In many cases, innovative solutions are more expensive in the beginning (e. g. the implementation of new information technologies), while the benefits will only be exploited after longer periods. Most current regulation systems, however, are not designed such that DSOs can invest in new technologies and expect timely refunding. This is why a change in the regulatory regimes is needed, with elements taking into account higher (operational) expenditure in the beginning (e.g. faster depreciation, risk premiums). Yet, technology micromanagement by the regulator should be avoided since it would rule out the advantages of a decentralised gathering of information, testing and decision making.

The incremental risk associated with such a development is borne by DSOs today in a couple of ways:

- Inappropriate (imputed) depreciation times lead to flow back times for the invested funds that are too long causing "gaps" between the (tax) balance sheet and regulatory book keeping.
- If some technologies actually fail or are withdrawn from the market rather quickly DSOs will either have to invest again or will have to support more than one technology at the same time. Also if any technology "fails", the DSO will have to "write-down" the relevant assets, i.e. it will incur a "loss" if the regulatory regimes will not allow him to recoup such write-downs via its regulated revenue e.g. in systems that are TOTEX-orientated and do

not include any mechanism for CAPEX adjustments within the regulatory period. In addition both effects will cause any particular DSO to be less efficient c.p. than a DSO that did defer the investment decision somewhat longer or did invest in more traditional technologies. This is especially true in systems which include some kind of benchmarking that also includes CAPEX.

- If the risk associated with the investment is not reflected in the regulated interest rates, DSOs have a harder time attracting capital.

Question No. 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 incentivise DSOs to adopt smart grids?

If an incremental smart grid investment is indeed accompanied by rising OPEX (e.g. if some ICT service has to be contracted) and/or leads to more CAPEX short term (as more innovative technology might be more expensive) the DSO might indeed be discouraged to undertake such investments due to the negative effect on its profit caused by such measure. This might be the case especially if the investment needs to be undertaken within the regulatory period, i.e. if the time gap between costs and revenue is long.

The major effect to be addressed however is a shift from CAPEX to OPEX as compared to a conventional extension of the grid. In order to incentivise the DSO to realise the savings from opting for an innovative solution, the Averch-Johnson-Effect has to be taken into account. It is important and necessary that regulation recognises all new costs for the new DSO activities without discount and delay over an appropriate time period of about 15 years. One possibility might indeed be to enable the regulated companies to realise a return on TOTEX instead of CAPEX only. Depreciation schemes and other elements like risk premiums shall be adapted to the character of investments in smarter technologies (see also answer to question no. 12).

In case of obligatory smart investments, e. g. in the case of a political decision to deploy smart meters, which foreseeable cause a rise in CAPEX as well as in OPEX, a (full) cost reimbursement should be introduced in the shorter term to cover insecurities, technological and regulatory risks and the fact that the DSO might want to undertake such investments in a different time schedule. Regulatory pressure on increasing efficiency should only be applied after the roll-out is finished and reimbursed.

Question No. 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.

Generally speaking, BDEW points out that output regulation is very difficult to introduce since the possible parameters are hardly measurable and influenceable.

Due to differences in grid structures (e.g. population density, high share of high voltage or none, high share of DG or none, topology), the tasks of grid operators differ both within a member state and between different countries, and so do the expenses for grid operation. Regardless of the regulatory methods applied, the incentive mechanisms shall enable the DSO to gain revenues which cover the necessarily occurring costs and to carry out necessary investments. Any incentive regulation, be it output or input based, should encourage efficiency and not create obstacles to DSOs to invest.

Since grid structures differ among DSOs, different output criteria may be needed for different structures of the compared DSOs.

When considering introducing elements of output-oriented regulation it is most important to take into account that comparability between heterogeneous grid structures of DSOs, e.g. in benchmarking processes, can be ensured only if all the individually relevant and maybe different outputs are considered which reflect the structural differences of the supplied areas (e.g. population density, high share of high voltage tasks or none, high share of DG or none, topology). This is especially important if only a small share of DSOs is affected, because benchmarking methods have a strong tendency to underestimate outputs of relatively small groups.

Methods of finding the relevant outputs and normalising the levels of performance ensure comparability only if they consider the heterogeneity of compared DSOs.

Also in the case of input oriented regulation, the regulatory framework has to take into account the heterogeneity of grid structures. BDEW welcomes intensivised research on regulatory approaches to find the best suited combination of elements which incentivise the necessary grid investments. There exist many cases where a narrow use of input oriented regulation is useful or necessary within a general frame of an output based regulation.

Subsection 3.3: Structure of DSO tariff (capacity vs. consumption)

Question No. 15. Do you agree that to allow timely recover of DSO revenues, assumptions on consumption patterns in tariff models could be updated within price control periods?

Timely recovery of DSO costs should be a fundamental principle of any network tariff system. Any risk resulting from unpredictable consumption should not be borne by the DSO as this

would only unnecessarily serve to increase their cost of capital. For this reason, assumptions should be updated if the pricing period is too long. A far better solution however would be to shorten the period (i.e. to just one year), which would render such adjustments redundant.

As a general principle, future DSO network tariff structures should be designed such that they do not potentially counteract market-driven price signals e. g. from the wholesale market. Therefore, BDEW is sceptical with regard to Time-of-Use-Tariffs since they bear this risk (see answer to question no. 16).

Subsection 3.4: Time-of-use distribution network tariff (via supplier)

Question No. 16. How can Time-of-Use network tariffs be coordinated with system energy prices?

Time-of-Use (ToU) network tariffs are expected to help avoiding grid congestions by incentivising grid users to adapt their consumption in reaction to the current network tariff. In theory this principle sounds interesting, but BDEW doubts whether it can currently work in practice. If the relevant grid congestions which are meant to be avoided shall be modelled adequately, the implementation of ToU network tariffs would be rather complex: huge amounts of on-time data would be needed to generate these tariffs. Besides, the customers' energy consumption in every single time interval would have to be tracked.

While these problems could be solved by the introduction of suitable technologies in the future, more research should be conducted on the potential effect of ToU network tariffs. If these signals are meant to reflect local needs, they would overlap with market driven price signals for the commodities (electricity or gas) which originate from demand and supply in the whole market area. In all likelihood, ToU network tariffs would run against these price signals and cancel them out. Therefore, the effectiveness of the network tariff signals is questionable.

As a far simpler solution than ToU network tariffs, CEER should rather consider separate incentives that provide the DSO with a clearly defined right to use demand flexibility while remunerating the customers according to a rate set in advance. These measures would still leave room for market actors to contract flexibility and to use it for their own purposes or to offer larger flexibility products to the DSO. Such a system would also set incentives to provide the most efficient solutions in energy generation.

Question No. 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 that suppliers are required to pass through the distribution price signal to customers?***

The retail markets are liberalised. Any rule on pricing would directly intervene in the market. There is no justification for such a requirement, a direct pass-through obligation must not be imposed on suppliers/aggregators.

Suppliers or aggregators should be allowed to co-ordinate offers for different consumer segments and define their own strategy only in the absence of grid constraints. The BDEW proposal of a "traffic light system" ensures clearly defined responsibilities and supports the transition of the energy market. Following this approach, the existing competition will ensure that as a general rule suppliers/aggregators optimise both energy and use of the grids for the benefit of the customers. In exceptional cases, when a potential or actual grid congestion is detected, the system operator responsible for the respective grid area should be allowed to intervene on the basis of the rules described for the "yellow state" of the "traffic light system": the system operator can demand the necessary actions (e.g. rise in energy consumption or decrease in energy feed-in) from market actors who offer such flexibility services based on their related contracts.. These contracts must respect the general framework for the prohibition of multiple sales and possible interference to ancillary services/congestion management by TSOs. In case of an urgent congestion situation (in the red state of the "traffic light system") the DSOs must be able to intervene. As a general rule the management of flexibilities should be in accordance with the balancing responsibility of the balance responsible parties and the responsibility of the TSO for system security.

Subsection 3.5: Contractual arrangements

Question No. 18. ***Do you agree with the assessment of different cases when DSOs or other parties should have contracts or agreements with consumers and distributed generators?***

In general, the supplier or aggregator should be the contact partner for the customers, because demand response services are normally carried out by the supplier or aggregator. In Germany, already today bigger consumers offer flexibility services on balancing markets. The flexibilities of consumers that do not have the capability to participate on the market by their own (for instance small consumers) are best suited to be raised by energy suppliers or other aggregators. They have the consumer proximity and the innovative potential to offer flexibility products, which motivate the consumer to assume an active role in the energy market. We coherently agree that, when and if a DSO uses DSR to manage its network in a normal situation (i.e. not in an emergency – green and yellow traffic light), such management should be based on contractual agreements with the suppliers. Yet customers should still agree voluntarily to being steered, should be reimbursed for their willingness to be steered and should

have the right to withdraw their consent (there might be exceptions to these rules in cases where such steering capabilities and their (non-)reimbursement are introduced under another legal stipulation, e.g. in § 9 of the German RES Act).

Having said this, some caveats should be considered:

- The party responsible for balancing should be clearly defined. Either the supplier or the aggregator should take the full responsibility for the accounting grid.
- Direct contracts between the DSOs and the customers should be limited to emergency issues as mentioned in the answers to the preceding questions.
- It seems preferential to contract DSR capabilities through suppliers/aggregators as these can optimise their portfolio through identifying which customer to interrupt while providing the required flexibility to the DSO. This intermediate role of the suppliers/aggregators is central to a dynamic search for new innovative flexibility products.
- All forms of reimbursements should be acceptable and the DSO should be allowed to make a non-discriminatory choice from these, i.e. reimbursements, upfront premiums, network fee reductions. It is important that DSO expenditure on DSR is covered by the regulatory regime.
- From a DSO's point of view any DSR potential needs to have a certain "firmness" in order to be usable, i.e. to be relevant enough to defer any investment in the expectation that any bottleneck will be manageable by using the DSR potential contracted. Such need for firmness implies that DSOs will be interested in contracting loads for longer time frames, i.e. one or two years at least and their focus is probably on larger loads (e.g. heat pumps, electric cars, night storage heaters etc.) than on smaller loads (e.g. washing machines and fridges etc.).
- Finally, if such installations and their DSR potential are also to be used by other market actors in times when the DSO has no need for them in order to maximise their benefit for consumers and the system, systems should be in place that ensure
    - that DSO steering (when applicable) cannot be rendered meaningless;
    - that steering by market players does not cause additional bottlenecks or congestions and thus cause a (new) need for network enhancement.

Question No. 19. Which type of regulatory controls should be adopted by NRAs for DSOs, in cases of contractual arrangements falling under categories II and III?

Coherent implementation of the Third Energy Package is an essential basis for controlling DSR contracts for DSOs by NRAs. In general, regulatory controls of DSO contracts are important to protect customers, suppliers or aggregators. But, any over-regulation should be avoided which may create additional barriers to innovation in this area.

We also believe that generally DSOs should not be forced to “buy” DSR potentials they do not require and which needs to be balanced against the DSO’s own demand for firmness that was mentioned earlier (consumers might not be willing to invest in installations with more flexibility, e.g. a larger heat storage, if they cannot be sure that the DSO will reimburse that investment for some years or very liquid markets for flexibility exist).