Network tariff components: points of orientation

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AgNes determination proceedings (GBK-25-01-1#3)

1. Introduction

The Bundesnetzagentur's Grand Ruling Chamber for Energy (referred to here as the "Ruling Chamber") opened proceedings for the determination on the general electricity network tariff system (AgNes) for the period once the Electricity Network Tariffs Ordinance (StromNEV) has ceased to be in effect in accordance with section 29(1) in conjunction with sections 21 and 21a of the Energy Industry Act (EnWG) on 12 May 2025 [GBK-25-01-1#3].

Upon opening the proceedings, the Bundesnetzagentur published a discussion paper that presented the changes in the framework conditions brought about by the energy transition, a target vision, an analysis of the current situation, a comparison between the current situation and the target vision, and initial adaptation options based on this. The responses to the subsequent consultation on the paper and the contributions in the industry workshop held at the beginning of June 2025 helped to set out the various players' target visions and ideas and point to the advantages and disadvantages of different adaptation options. The Bundesnetzagentur published the responses to the consultation.

The Bundesnetzagentur is now condensing the options to be considered, taking into account the findings from the consultation and the workshop and in close dialogue with the experts commissioned to produce reports for the AgNes process. This status report contains specific proposals that indicate the direction in which the Ruling Chamber is tending at this stage. These proposals will now be discussed in detail and examined for their practicability in expert workshops.

The Bundesnetzagentur will also publish a report that analyses the different approaches in Europe to designing network tariffs.

This paper presents specific proposals for network tariff components for consumers and is intended to serve as the basis for the first two expert workshops. Further papers will follow on the treatment of specific network users such as storage facilities and producers and on issues such as dynamic tariff components and cost centres and cost distribution.

2. Current situation

In future, network tariffs are above all to comprise two types of tariff component that differ in terms of their purpose: tariff components with a financing function and tariff components with an incentive function. In addition, there are still to be tariffs for metering and meter operation and

special tariffs such as construction cost contributions. The purpose of tariff components with a financing function is to ensure that the network costs can largely be refinanced. The purpose of tariff components with an incentive function is to internalise the cost effects of (short-term) network usage decisions and (long-term) investment decisions.

Tariff components with a financing function:

- Tariff components with a financing function are, if possible, to have little influence on network users' behaviour.
- The financing function for consumers at and above the medium-to-low voltage transformation level and for consumers at low voltage level with a consumption exceeding 100,000 kWh is to be achieved through two network tariff components: a price for "ordered" capacity and a (static) energy-based price.
- The (static) energy-based price is to be two-tiered:
  - an energy-based price 1 for consumption below the ordered capacity and
  - a higher energy-based price 2 for consumption above the chosen capacity that serves to encourage network users to choose and order a rational amount of capacity.
- The current view is that the financing function for consumers at low voltage level with an annual consumption up to 100,000 kWh is generally still to be achieved through an energy-based price and a standing charge.
- The new tariff system is to guarantee that prosumers contribute fairly to financing the networks at low voltage level, for example through a higher standing charge.

Tariff components with an incentive function:

- Incentives that encourage network-oriented usage behaviour are to be created through dynamic energy-based prices.
- The purpose of tariff components with an incentive function is to internalise the cost effects of (long-term) investment and (short-term) network usage decisions.
- Tariff components with an incentive function do not aim to generate additional revenue; however, depending on the scenario, they can lead to an increase or decrease in revenue for network operators, which then serves the general financing of the network.
- Incentives for network users to also take into account network interests in their investment decisions are to be created through construction cost contributions.
- Options for how producers and storage facilities should contribute to the financing of the network are still being considered and are therefore not a focus of this paper. Any fundamental ideas might be able to be transferred or would have to be adapted accordingly.

3. Incentive and financing function

During the consultation many different stakeholders argued in favour of prioritising the objective of creating incentives to encourage network-beneficial and system-beneficial behaviour in order to reduce overall costs. At the same time, the majority of consultation participants were aware that another necessary objective of charging network tariffs is to finance the costs that have already been incurred.

These two key basic functions of network tariffs – financing and creating incentives – are therefore appropriate for structuring the further considerations on the network tariff system. Together with Consentec and IBER, a concept has been developed that condenses the target vision from the discussion paper even further. The goal of a financing contribution, in particular cost reflexivity, put forward in the discussion paper is still included in both basic functions. The goal of feasibility can be seen as a necessary secondary condition that always has to be taken into account.

In addition, questions regarding implementation costs may sometimes influence the evaluation of which generally feasible options are preferable.

The purpose of tariff components with a **financing function** is to ensure that network operators' financing requirements are largely covered. The purpose of tariff components with an **incentive function**, by contrast, is to influence network users' investment and/or network usage decisions to such an extent that the effects of these decisions on network costs are internalised in the decisions. Tariff components with a financing function inevitably create behavioural incentives as well. However, this effect should generally be kept to a minimum. It is particularly important to prevent tariff components with a financing function from creating unwanted incentives. At the same time, tariff components with an incentive function can generate a certain financing contribution, especially if the behaviour incentivised by the tariff component through price signals does not occur or does not occur immediately.

A distinction will be made here between these two basic functions, assuming that the two functions can generally be attributed to separate tariff components. The two functions could be combined again for practical application, provided that they have the same basis (such as a dynamic energy-based price component (incentive function) and a static energy-based price component (financing function)).

4. Financing function

The revenue allowed under the regulatory caps has to be distributed among all the network users; in the first place, the focus should be on the tariffs to be paid by consumers, irrespective of whether and to what extent producers and storage facilities are to contribute to financing the revenue. The Ruling Chamber's latest considerations on the tariffs to be paid by producers and storage facilities will be presented in separate papers.

The design of the tariff components has a decisive influence on the subsequent distribution effects and the associated incentive effects, which may include unwanted incentives. A combination of several components is suitable to balance out these effects. The larger the number of components that are combined, the more complex the system will become. This conflict of objectives requires careful consideration.

The components that are typically suitable are energy-based prices, power-based prices, capacity-based prices and standing charges:

Energy-based prices have an immediately understandable effect and, in comparison with power-based components, have advantages over standing charges for users with low usage times and users with low consumption. However, they are also the reason for large self-supply advantages for prosumers and make electricity more expensive in competition with other energy sources.

Power-based and capacity-based prices have advantages for consumers with high usage times compared with volume-based components and counteract the problem of a lack of solidarity in bearing the network costs that is associated with self-supply. As the concurrent annual peak load is still the main cost driver for network infrastructure, it is right to price power or capacity as well. However, the current method for calculating the power-based price has been heavily criticised. It is said to create unwanted incentives for consumers to use their flexibility to even out their individual electricity consumption and thus minimise their individual peak load and demand for network connection capacity instead of using flexibility with optimum value for the electricity system.

Standing charges for each connection or meter point do not create any unwanted incentives for the use of flexibility and can help to ensure that prosumers make a reasonable contribution. However, in view of the large heterogeneity of consumers, the uniform application of standing charges leads to a specific cost burden that is heavily dependent on size. An approach with standing charges as the only financing component would result in considerable redistribution effects, which in turn could seem unfair and could even lead to a prohibitive cost burden for smaller consumers (within a network level). Furthermore, such an approach would meet with concerns with respect to the Energy Efficiency Directive.

In view of the advantages and disadvantages of each of the components, the obvious solution for the Ruling Chamber at this stage is to combine two components. A combination of three components would significantly increase the complexity of the system and would therefore have to offer considerable added value, which is why there is still much in favour of a system with two components.

1. Consumers at or above the medium-to-low voltage transformation level and consumers at low voltage level with a consumption exceeding 100,000 kWh

Consumers with a consumption exceeding 100,000 kWh nowadays have interval metering; their consumption is therefore not balanced and billed using standard profiles but, under the current system, using power-based and energy-based prices.

In the Ruling Chamber's view, a distinction based on size is still appropriate. Section 55 of the German Metering Act (MsbG) also makes a distinction between consumption exceeding and consumption up to 100,000 kWh. The work and costs involved in more complex billing systems could be disproportionate in the case of smaller consumers. A delivery and pricing system based on standard profiles has proven its worth especially for smaller consumers' suppliers. Consumers with smart metering systems already have interval metering, irrespective of their size. Under section 17(6) of the Electricity Network Tariffs Ordinance (StromNEV) interval metering is still considered as "energy metering", with a system combining a volume-based tariff and, if applicable, a standing charge. Whether 100,000 kWh is still the right threshold is not a question to be decided in the AgNes process. The question to be decided in the AgNes process would just be whether consumers below the threshold would be able or required to choose whether and how to switch to the tariff system to be established for consumers above the threshold.

The discussion paper also put forward for consideration an additional standing charge component for higher voltage levels. Compared with the power-based component, this has the advantage of having a neutral effect with regard to flexible behaviour. However, the specific tariff burden for network users is heavily dependent on size. Many participants in the consultation shared this view. The introduction of a standing charge for higher voltage levels is being disregarded at this stage because of the associated distribution effects and the higher degree of complexity with a combination of three components.

The obvious solution is therefore a combination of a **volume-based** and a **capacity-based** component. This can help to balance out distribution effects given the very heterogeneous consumers at higher voltage levels.

It is appropriate to keep the **energy-based price** as the volume-based component. This is already established, easy to understand and particularly accommodates consumers with a small number of usage hours.

In the case of the capacity-based or power-based component, the current method of using the individual annual peak load as a basis has to be assessed critically. The power-based price creates an obstacle to flexible consumption behaviour that increases even more in the course of a

calendar year as additional costs become increasingly difficult to recoup. Furthermore, the concurrency function seems to be increasingly less suitable as a rule for calculating the power-based price. The assumption that the concurrency function can be used to replicate the probability of a network user's contribution to the annual peak load (as a presumable cost driver) is no longer correct. Recent analyses have shown that the concurrency function with an inflection point is only marginally better than a straight line at replicating the correlation between usage times and concurrency levels.[1] In view of the increasing importance of flexibility, the variability of load profiles should and will continue to increase and the correlation will consequently continue to decrease, especially in the case of low usage hours. However, a constant power-based price basically only differs from a capacity-based price in the extent/scope of its obstructive effect on flexibility. In addition, the current model is complex and increasingly contributes to the anomaly that network tariffs for lower voltage levels are cheaper than tariffs for upstream levels, which acts as an incentive to switch network levels without valid energy-related reasons. These views are shared by the majority of the respondents to the discussion paper.

The Bundesnetzagentur therefore proposes changing the power-based tariff component into a **capacity-based component**.

The obstacle to flexibility inherent in all consumption-based and in particular power-based tariff components is to be lowered. To this end, consumption exceeding the *chosen* capacity is to be allowed, but is not to be priced so that peaks in power demand trigger prohibitively high additional costs.

The capacity-based component would not be based either on contractually booked capacity, as with the gas network tariffs model, or on technical network connection capacity, but on capacity that can largely be chosen freely on an **annual** basis. An annual basis for capacity orders is not an essential part of the Ruling Chamber's considerations. However, it is an obvious choice because the network tariffs are calculated annually.

Consumption **exceeding** the chosen capacity would be possible at any time, at least up to the amount of the contractually agreed network connection capacity. A network user would pay a lower energy-based price (AP1) as long as the user's electricity consumption curve was within the limits of the capacity ordered. If the network user's consumption exceeded the ordered capacity, however, the user would pay a higher energy-based price (AP2) for the amounts above the ordered capacity.

To avoid any understanding, it should be made clear that the objective of the higher energy-based price is not to penalise or even prevent individual instances of consumption exceeding the chosen capacity but simply to encourage network users to make a realistic choice of capacity using rational criteria and based on their anticipated demand.

The higher energy-based price (AP2) should not be confused with a dynamic energy-based price either. It does not aim to encourage or discourage certain behaviour, nor is it (yet) to be based on the relevant network utilisation situation. It is part of the financing components and aims to ensure that the network costs can be refinanced by encouraging network users to make rational and plannable decisions on their chosen capacity. The addition of even more objectives would

[1] Future network tariff structure for medium and high voltage power grid usage in the context of the energy market transition (Consentec, 2025)

make the introduction of this model considerably more complicated and would delay introduction by years.

Each network user could calculate the optimum amount of capacity to be ordered based on the relevant prices and depending on their individual consumption profile (or rather their individual load duration curve). It is clear that ordered capacity as a reference does not give an indication of the expected individual annual peak load or the required network connection capacity.

This relatively simple approach takes into account the industry's concerns that a strictly binding, contractually agreed network connection capacity with a long lead time as a reference cannot adequately reflect economic fluctuations. Even now, the contractually agreed network connection capacity, which is based on maximum utilisation scenarios, differs significantly from the capacity actually used each year. Taking the capacity chosen by the network user as a reference instead of the network connection capacity agreed in the connection agreement makes the starting point simpler: the amount of work involved in the calculations is predictable. However, it does not address the issue of unused contractually agreed network connection capacity, at least not in the short term.

This model could probably make current special arrangements such as monthly and daily power-based prices obsolete because network users are free to book the capacity that is optimum for them. This needs to be looked at in quantitative terms.

Setting the exact parameters requires a balance between the discussed distribution effects and inherent incentive effects. The capacity-based price and the markup on it must be high enough to cover a specified share of revenue, taking into account individual optimisation, while avoiding larger distribution effects. At the same time, the higher energy-based price (AP2) must not be too high, otherwise shifts in load resulting in more consumption above the chosen capacity would be restricted too much.

From a regulatory perspective, the question is how much freedom network operators should have. The possible scope ranges from strict rules set by the competent federal or federal state regulatory authorities on the revenue shares for each of the tariff components, to a more general rule that merely requires the use of such tariff components.

The optimum capacity for each network user would be derived from the user's load duration curve and the component prices. It could be calculated using, for example, an appropriate calculation tool that is as simple as possible and that network operators could provide for the network users. The network operators' task would be to calculate the prices by anticipating the network users' capacity orders (as opposed to the network users' annual peak load, which is currently anticipated), taking into account the set revenue shares.

Questions

- Is there a more suitable option for allowing consumption to exceed the ordered capacity?
- How should the parameters be set? On what basis can the revenue share from ordered capacity be set?
- Which binding rules are needed for such a model in the determination – where can there be scope for flexibility?
- Does this model need rules on ordering a minimum amount of capacity to ensure that all the consumers addressed actually make a contribution through the capacity-based price component?
- Would a threshold other than the proposed volume-based threshold (100,000 kWh) be more appropriate for the application of this model?

2. Consumers at low voltage level with a consumption up to 100,000 kWh

Consumers at low voltage level without interval metering currently pay an **energy-based price and** usually a **standing charge** for each withdrawal point. The energy-based price is well accepted and understood. It sends an important signal regarding energy efficiency in households: households can directly reap the benefits of energy-saving or efficiency measures. It also has advantages for consumers with low calculated usage times, which is usually the case at low voltage level. There is therefore much in favour of keeping the energy-based price. However, the disadvantage is that a high energy-based price creates incentives for consumers to reduce the amount of electricity they consume from the network (and for which the energy-based price is charged) through self-supply, although they still have the full benefit of network provision. This leads to the issue already raised in the discussion paper that prosumers do not contribute adequately to the network costs (lack of solidarity). Consumers in this group usually consume a smaller amount of electricity from the network and thus save network tariffs; however, they do not reduce the network costs because the same amount of network capacity has to be kept available and the prosumer households, like all the other users, still have the electricity network to fall back on. The remaining costs therefore have to be borne by the other network users. An analysis by Consentec shows, for instance, that this effect in particular will become a driver for the regular low voltage network tariffs.[2] Unlike some consultation respondents, the Bundesnetzagentur is convinced that a cost-reflective tariff system is only possible if, in comparison with the current situation, the growing number of prosumers contribute fairly to the costs. An overview of network tariffs in Europe shows that this problem is addressed in other countries either through capacity-based prices or through special tariffs for prosumers.[3]

On the other hand, it should not be forgotten that although prosumers optimise their consumption to avoid network tariffs, they also contribute to establishing the generation infrastructure necessary for the energy transition. Prosumers can increase acceptance of the energy transition; above all, however, they mobilise private capital for the expansion of renewable energy. According to Article 18(1) of Regulation (EU) 2019/943 network tariffs must not include costs supporting unrelated policy objectives. At the same time, the objectives of the Regulation include delivering market signals for a higher share of renewable energy sources and for decarbonisation (Article 1(a)). However, the – wanted – mobilisation of private capital and thus optimisation with respect to network tariffs is only possible for those network users who have such capital available. The financing contribution of prosumers is therefore also largely a question of distribution.

In addition to the measure proposed in the discussion paper, the Bundesnetzagentur sees the following options:

Higher standing charge for prosumers

This option would involve specifically identifying consumers with generation installations and billing them a higher standing charge. The consumers could be identified using, for example, the core energy market data register. Some respondents in the consultation heavily criticised this suggestion and argued that charges should not be based on network users belonging to a group with certain characteristics but on their behaviour. Against this, it can be argued that the operation of a generation installation is itself coupled with a certain type of behaviour.

[2] Prognose und Analyse der Netzentgeltentwicklung Strom im Auftrag des BDEW (Consentec, 2025)
[3] BET

The general effect of a higher standing charge is that energy-based prices decrease because more network costs are financed independently of usage. If standing charges are increased for all consumers, very small consumers in particular will have to pay more. If, instead, only the standing charge for prosumers is increased, the share of the network costs covered by the standing charge component will increase. This means that pure consumers, especially very small consumers, will not have to pay more. The share of the costs to be covered by energy-based prices will actually decrease. Increasing the standing charge for prosumers would also mean that in particular prosumers with a low consumption would contribute proportionally more to the financing of the network costs.

However, it should also be mentioned that a network tariff system with a standing charge component that covers a large share of the financing can actually bring advantages for particularly large prosumers compared with the current system. Like any tariff system with high fixed components, such an approach favours players with a high energy consumption that can result from a combination of a sufficiently sized generation installation and energy transition technologies such as heat pumps, electric vehicles and storage systems. At the same time, these constellations also make a contribution in energy policy terms by helping to achieve the carbon targets.

Seasonal energy-based price
An alternative approach would be to focus on actual consumption behaviour and have different prices for different seasons: a low energy-based price in the summer and a higher energy-based price in the winter. In the winter, the financing contribution from prosumers would be larger due to the lower level of generation from a typical prosumer solar installation; in the summer, prosumers would benefit less from the amounts of electricity they do not consume from the network. However, initial quantitative analyses have shown that the financing contribution from prosumers would only be slightly larger if there was only a moderate difference in prices and if prosumers also benefited from self-supply during the winter half-year. In addition, the approach would make billing more complex and heating with electricity more expensive, in turn making sector coupling more difficult. It could also make business models where electricity suppliers offer their consumers an all-inclusive contract with a uniform tariff more difficult. Network tariff reductions for heating electricity under section 14a EnWG also have to be examined further. In addition, the approach could lead to more operative work for network operators if extra meter readings are needed to divide the consumption amounts into the different seasons.

Capacity-based price for all consumers at low voltage level
Another option would be to apply the model outlined for the higher voltage levels to all consumers at the low voltage level as well. A separate category with a specified capacity order could be created for consumers without interval metering. If part of the network costs are financed through capacity-based components, a reduction in the amount consumed from the network through self-supply cannot reduce the contribution to be made. However, the large consumption mix at low voltage level raises the question of whether a capacity-based price is justified and which incentives it would create. Controllable consumers (under section 14a EnWG) in particular represent a large potential for flexibility that should be exploited for the benefit of the electricity market. It has to be assessed whether these consumers respond sensitively to capacity-based pricing, with the result that desired responses to electricity prices are reduced even though they would mostly not be problematic for the network.

If, having weighed up the advantages and disadvantages, the Bundesnetzagentur decides to **increase** the **standing charge for prosumers**, the revenue share for the standing charge should remain the same overall across all the user groups. This would ensure a larger contribution from prosumers of all sizes and avoid the disadvantages of creating new obstacles for flexible behaviour

and sector coupling. Irrespective of which model is ultimately chosen, the work and costs involved in implementation should be within limits.

In addition, the Bundesnetzagentur has noticed considerable differences among network operators in the relation between standing charges and energy-based prices. At the same time, the Bundesnetzagentur has only received a relatively very small number of complaints questioning the reasonableness of the relation between individual distribution system operators' standing charges and energy-based prices. This raises the question of whether distribution system operators should still be free to determine this relation or whether regulatory rules, however detailed, should be created. Although there are few obvious reasons for the considerable differences, any rules on this will inevitably lead to a discussion about winners and losers.

Questions

- Which model do you consider to be suitable for ensuring that prosumers contribute adequately to financing the network without creating new disadvantages?
- Which effects on competition in the household customer segment are to be expected?
- Would direct billing of the network costs with households be desirable (despite the additional work involved for network operators) so that households also feel the effect of the arrangements?
- How long would introduction take once all the questions have been resolved?
- Should distribution system operators be free to determine the relation between standing charges and energy-based prices, beyond general but indefinite requirements regarding reasonableness and non-discrimination?

5. Incentive function

The purpose of tariff components with an incentive function is to encourage network users to take into account the effects of their decisions on network costs. If cost effects are successfully internalised, this increases the cost reflexivity and thus the cost efficiency of the tariff system. As stated in the discussion paper, an exact correlation between network users' decisions and cost effects is virtually impossible. However, a sufficient approximation is necessary, otherwise wanted incentives can turn into unwanted incentives. A distinction first has to be made between the types of decision to which incentives can relate: usage behaviour and investment decisions.

In principle, the explicit purpose of introducing tariff components with an incentive function is, in addition to ensuring the refinancing of the network costs through tariff components with a financing function, to encourage changes in user behaviour for the benefit of the network. Before any potential incentive can be set, it first has to be analysed whether network tariffs are the right instrument for the purpose. There may be other potential instruments for particular incentive purposes; if they are considered to be more suitable overall, network tariffs should not additionally be used for the same purpose ("one instrument for one purpose" principle). It may also be that network tariffs are generally considered to be well suited for a particular purpose but that the relation between the potential benefits and the disadvantages (work, costs, distribution effects, etc) for certain user groups is too unfavourable in the long term, or at least initially, to justify introducing network tariffs.

1. Incentives for usage behaviour

The necessity for network tariffs to create incentives for network-friendly or network-beneficial behaviour is of key importance for the success of the energy transition and for network stability in view of the increasing demand for network connection capacity and the changes in usage behaviour. Capacity-based tariffs indeed create certain incentives to reduce individual usage of

the existing network connection capacity. If players behave rationally and the right parameters are set, this can give network operators additional insight into the capacity actually needed, which in turn can lead to reduced network expansion or higher connection numbers.

This effect of capacity-based prices as a static component that ensures the financing of network costs is not sufficient to internalise large cost items, such as congestion management costs, in price signals. These can only be reflected effectively through a dynamic tariff component that influences electricity consumption behaviour. Dynamic energy-based prices appear to be a more suitable component for this purpose because the incentive effects can be adjusted more precisely than with static power-based or capacity-based prices. These incentives can target both short-term variable network costs, such as network loss and congestion management costs, and long-term network expansion costs that are driven by the network users' collective behaviour. The possible design of the target model is outlined below.

To address congestion through financial incentives that encourage changes in behaviour aimed at reducing congestion, the dynamic energy-based price components should be symmetrical and either positive or negative, as appropriate. Depending on a network user's usage decision and position in relation to the congestion, an additional network tariff would be charged or paid to the network user where and when – and only where and when – there is the risk of congestion. This raises the question of whether net payments to individual network users should be possible once the dynamic energy-based price has been offset against the other network tariff components. Pricing would not necessarily be based on the boundaries of a network but on network regions. The dynamic energy-based price component would not apply to congestion-free networks (or network regions). Nevertheless, the planned paper on dynamic energy-based prices will discuss the question of how network users in these network regions can respond to signals from the upstream network level without signals from their own levels.

To reflect the highly volatile load and congestion situation in the network, a dynamic energy-based price component would also have to be granular in terms of both time (day-ahead) and location (individual congestion situations). Application should be mandatory for all network users within the user groups to which the dynamic tariff is to apply in order to avoid only those network users opting to participate that do not need to change their behaviour and so benefit accordingly. Finally, (possibly opposing) price signals from different network levels would have to be superimposed in order to send the right signal across all the levels.

At this stage, the most conceivable solution seems at best to be a gradual top-down process starting at the extra-high voltage level and with highly flexible user groups, irrespective of the fact that costs for tariffs with a financing function will still need to be passed on vertically.

The outlined design places high demands on all players involved. The network operators sending the signals would have to be able to make load and congestion forecasts for different locations and translate them into prices for different times and locations. One conceivable option would be to start with network levels 1 to 3 because it can be assumed that distribution system operators make the forecasts needed anyway, at least up to the high voltage level. The users receiving the network signals must have interval metering or smart metering systems. Furthermore, it should be noted that dynamic energy-based prices can lead to systematic additional burdens for comparatively inflexible network users. This effect may be correct in substance because the lack of flexibility typically contributes to continually high congestion management costs. However, a mandatory dynamic incentive component could lead to significant distribution effects that should be taken into consideration. Such aspects must also be taken into account in the cost-benefit relationship that plays a role in assessing for which user groups incentives should be created in the first place through dynamic energy-based prices. The user groups differ in terms of the potential and price sensitivity of the use of flexibility. The consultation showed, for example, that in particular battery

storage systems have a large price-sensitive potential, although parts of industry warned against too high expectations in the short term. Larger distribution effects can be expected with the user group of intermittent producers. Based on the above-mentioned reasons of price sensitivity and the availability of data on network situations, there is much in favour of a gradual introduction of dynamic tariffs. Stand-alone storage facilities at higher voltage levels are therefore specifically suitable for the start. It will then be necessary to look at whether and to which other user groups and voltage levels the model can be transferred.

It would generally make sense for network users at lower voltage levels to also be able to see and respond to price signals even if the operators of the networks to which they are connected do not send their own price signals. This specifically links to the question of including controllable consumer devices (consumers under section 14a EnWG). These actually meet the requirements for dynamic network tariffs; however, low voltage network operators would at least have to be able to pass on the dynamic energy-based prices from the upstream level and add them to their own static time-variable energy-based prices for their own voltage level.

It should be noted that incentives for usage decisions can always act as incentives for investment decisions as well, as long as network users are able to anticipate the incentives, at least approximately, when making these decisions.

This therefore also raises the question of whether, in view of a likely long transitional phase until the introduction of fully dynamic network tariffs, a comparatively broadly structured transitional model as used in the Netherlands, for example, should be introduced in addition to the gradual introduction for individual user groups.[4]

As mentioned earlier on, the Ruling Chamber's deliberations on dynamic network tariffs are still ongoing. Nevertheless, in view of the complexity of the questions to be resolved and the high expectations regarding this tariff component, the Ruling Chamber is already posing a number of questions that arise in this context.

Questions

- Is it correct that it is possible to make congestion forecasts for networks (or network regions) that are affected by congestion at network levels 1 to 3?
- What is the situation regarding level 4 (high-to-medium voltage)?
- Which criteria should be used to decide on the gradual introduction of dynamic tariffs?
- Do storage facilities or other groups at higher voltage levels represent a suitable user group for the start?
- How quickly can the target model be rolled out to other network levels?
- What is your view on less dynamic intermediate steps (for example time windows related to the whole network area) if introduction were to take more than five years?
- Which other user groups (producers, industry, controllable consumers) should be included and when? What would need to be considered?
- How should section 14a EnWG module 3 be dealt with?

[4] ACM presentation for the introductory AgNes workshop, Bonn, 2-3 June 2025, slide 7

2. Incentives for investment decisions

When establishing or expanding network connections for network users, expansion measures may be necessary in the network where a connection point is (to be) located or in the upstream network. The size of these measures depends directly on the network users' decisions on the connection point's location, network level and network connection capacity. Such measures can, for example, relate to the capacity of substations that are directly needed to supply electricity to a network user or transport electricity that a network user feeds in. The associated costs are incurred irrespective of how the facilities to be connected are used. They are therefore only relevant to the investment decisions. Capacity-based tariff components are particularly suitable to internalise these cost effects in the network users' decisions.

In addition, expansion measures at an upstream network level can also be influenced by where and with which capacity a network connection is made if the connection user's anticipated behaviour is expected to have a sufficient level of concurrency.

The most direct way of reflecting cost effects in conjunction with network connections is through construction cost contributions. Construction cost contributions are primarily an instrument for reducing unnecessarily high demand for connection capacity by internalising actual or standardised expansion costs to a reasonable extent in the price for network connection. They can also influence the choice of location for a connection by creating incentives for users to avoid connection points that are overloaded or that would require particularly large expansion measures.

To create a targeted incentive through construction cost contributions, such a tariff component can theoretically be calculated on the basis of the actual cost effects in each case, taking into account the individual location, network level and network connection capacity. However, on account of the typically gradual process of network expansion, the construction cost contributions would depend on the order in which connections were made. To address this, a certain degree of standardisation is needed when calculating construction cost contributions.

Furthermore, calculating a construction cost contribution strictly on the basis of the costs incurred would involve a huge amount of work, which in turn would need to be financed through the network tariffs or integrated into the contribution. Nationwide standardised rules for calculation would also be needed. The Bundesnetzagentur simplified this issue in 2008 in a Ruling Chamber 6 position paper by stating that it was reasonable to charge construction cost contributions calculated on the basis of annual power-based prices. If capacity-based prices are introduced instead of power-based prices, it will be necessary to see if this approach can be kept accordingly or if it should be modified.

Network operators are currently free to choose whether or not to charge construction cost contributions. It would be necessary to look at whether it would be appropriate to make construction cost contributions mandatory in view of the shortage of network connection capacity and the high costs of network expansion.

It also has to be discussed to what extent it is possible and rational to effectively influence the choice of location through construction cost contributions. The Bundesnetzagentur stated in its Ruling Chamber 8 position paper of November 2024 that this was generally possible and rational with respect to withdrawal points at transmission system level. However, doubts were raised about how far this was applicable to the distribution system level. Local congestion can change quickly, which is why construction cost contributions are only partly suitable as an instrument to influence the choice of location in order to avoid such congestion; local congestion also requires a very high level of forecasting and planning by network operators as well as differentiated pricing within a network area. Furthermore, locational signals that may be useful with respect to

congestion and expansion in a distribution network may be counter-indicative at the upstream network level. Different construction cost contributions for different locations would therefore need to be coordinated very carefully between the network levels concerned and would require sound reasoning by the network operator charging the contribution.

It should be noted that construction cost contributions not only create incentives but can and should also contribute to the financing of the network to a certain extent.

If the Bundesnetzagentur concludes in the subsequent course of the AgNes process that producers should also be charged construction cost contributions, the above considerations would need to be transferred accordingly and supplemented if necessary.

Questions

- Should network operators be free to choose whether to charge construction cost contributions or should this be made mandatory?
- Is it preferable to calculate construction cost contributions on the basis of the network expansion costs to be determined in each individual case or using a standardised method?
- Which criteria should be used to choose the parameters?
- Should construction cost contributions (also) be used to influence location decisions? Should different construction cost contributions for different locations in a network area be required or possible?