

TransnetBW response to the European Commission's consultation on the review of the Energy Efficiency Directive

On 16 July, the European Commission opened a public consultation on its review of the Energy Efficiency Directive (EED). TransnetBW considers energy efficiency as a key driver to reach the EU's energy and climate policy objectives for 2030 and beyond. The European power systems will play a decisive role in supporting and enabling the achievement of these ambitions. In this context, TransnetBW welcomes the opportunity to provide below its views on several of the proposals.

Executive summary

- / **The Energy Efficiency First principle must take fully into account aspects such as system reliability, RES integration and market integration.** Art 25 should thus be clear about such interpretation of the principle rather than merely focussing on the reduction of energy consumption. Moreover, cost-benefit methodologies assessing energy efficiency should be developed jointly by TSOs and NRAs.
- / **Article 25.3** must not impose the reduction of losses as the driving principle for an efficient development and operation of the grid. **Losses at transmission level are of technical nature and are thus an inherent part of the transmission system. TSOs have close to no control over such losses, which are likely to increase in absolute terms as a result of the energy transition and market integration.** Article 25.3 should therefore rather focus on the overall efficiency of the energy system. The reporting of such losses needs to remain practicable. This is particularly relevant with regards to the requirement for TSOs to 'map' transmission losses.
- / **Since transmission losses are not a control variable that TSOs can determine, the concept of 'avoidable losses', as referred to in Art 25.3** is misconceived in the context of the transmission level and should not have application. However, if such a concept is indispensable, it should be defined jointly by TSOs and NRAs, carefully taking into consideration potential effects on the transmission system and its operations.
- / **Energy efficiency and sustainability criteria are to be taken into account by TSOs in procurement contracts.** Some flexibility in the application of the requirements is needed in case supply markets are too tight and regulatory frameworks should take potentially higher costs into account.
- / **The extension of the concept of 'obligated parties' to TSOs as proposed by articles 2.17 and 9.2 risks conflicting with TSOs neutrality requirement** towards all market participants. This addition should thus be deleted.

For any questions related to this document please contact Transnet BW's Brussels Representative, Michael Mieszczanski at m.mieszczanski@transnetbw.de.

Art 25 - Energy transformation, transmission, and distribution

A broad and encompassing interpretation of the Energy Efficiency First principle is needed

We agree with the Commission's recommendation on Energy Efficiency First, that the principle should be treated as "an overarching principle to be applied in a wider policy context, rather than with the ultimate goal of reducing energy consumption. The principle shall be applied in conjunction and compliance with other policy objectives".¹

In this context, **TSOs' first and foremost preoccupation (and legal obligation) is to ensure the safe and reliable operation and development of the interconnected transmission system at affordable costs.** Hence, Energy Efficiency First must be interpreted in an encompassing and proportionate manner, taking fully into account aspects such as system reliability, renewable energy sources (RES) integration and market integration. Art 25 should thus be clear about such interpretation of the principle rather than narrowing its focus on the reduction of energy consumption.

Art 25.2: Cost-benefit methodologies for energy efficiency should be developed jointly by TSOs and NRAs in line with current practice

Art.25.2 states that "National Regulatory Authorities should provide methodologies and guidance on how to assess alternatives in the cost-benefit analysis". In line with current practice such methodologies should initially rather be developed by TSOs and then be reviewed and approved by NRAs. Besides ensuring greater consistency with existing processes, in practice, NRAs already supervise the investment plans of TSOs² and can also thereby review their content.

Art 25.3 must not impose the reduction of losses as the driving principle for an efficient development and operation of the grid.

The interconnected transmission system operates at comparably high efficiency levels varying between 0.5 and 3% of the total energy transmitted on the network and is thus significantly more efficient than other parts of the power system³.

One example of TSOs' efforts to implement an efficient transmission system is the EU-wide cost-benefit analysis methodology⁴. The CBA methodology considers the effect of network losses that each European transmission project causes by monetizing its effects. Additionally, in the operation of the transmission system, electricity TSOs implement optimizing algorithms to ensure the minimization of losses and the respect of voltage security limits.

More importantly however, network losses at transmission level are generally technical losses⁵. This means that they result from the flows of electricity determined by the loading of conductors and other grid elements. Such losses depend on physical conditions such as the voltage level, weather conditions, the volume of power flows over the grid, the conductor section and the distance between generation and consumption.

As the transmission system integrates renewables from remote areas (such as offshore wind parks), the distances between electricity generation and consumption will increase in the future, resulting in an increase of losses. However, the integration of more remote renewable generation sites is a fundamental prerequisite of the energy transition and of the electrification of the energy system. So, while **transmission losses increase in absolute terms, this development contributes significantly to a relatively more energy efficient overall system.**

¹ See EU Commission, Commission Recommendation of 28 September 2021 on Energy Efficiency First: from principles to practice, 28.10.2021, pp. 4-5.

² Under Art. 59, §1 (K) of the electricity directive, the NRA is in charge of monitoring: investment plans of the transmission system operators and providing in its annual report an assessment of the investment plans of the transmission system operators as regards their consistency with the Union-wide network development plan; such assessment may include recommendations to amend those investment plans.

³ 2nd CEER Report on Power Losses, 23 March 2020, retrieved 29/10/2021: [CEER report](#)

³ ibid

⁴ <https://tyndp.entsoe.eu/cba/>

⁵ 2nd CEER Report on Power Losses, 23 March 2020, retrieved 29/10/2021: [CEER report](#)

It should also be stressed, that power flows are, to some extent determined by market transactions (both intra-zonal and cross-zonal), where electricity TSOs act as facilitators, as they have to offer maximum capacity to the market.

Also, technical measures (e.g. Dynamic Line Rating, High Temperature Low Sag) used to reduce the need for new infrastructure, may even entail higher level of losses. In the spirit of the Energy Efficiency First principle, implementing such solutions is justified, as TSOs strive to optimize the use of their existing assets, rather than to build new infrastructure at any cost.

Losses are thus an inherent part of electricity transmission and there are very limited possibilities available to electricity TSOs to actually reduce these losses. The Council of European Energy Regulators (CEER) thus concludes in its 2020 report on power losses that *'technical losses are a result of the laws of physics and are unavoidable'*.⁶

A narrow focus on the question of loss reduction would be disconnected from the physical realities of the transmission system and, actually, from the needs of the energy transition, market integration and the move towards decarbonisation. Requirements applied to TSOs to reduce transmission losses could on the contrary create conflicting interests between reducing losses and facilitate market transactions or integrating renewables into the system.

In conclusion, **the requirement under Art 25. §3 for transmission system operators to "reduce network losses" should be amended. Reducing network losses should not be the primary criterion for network development and operation at the transmission level.** Considering the major ambitions put forward at the EU level through the Fit-for-55 package and the EU Climate Law, the issue of network losses should take account of the overall energy system efficiency (i.e., electrification, integration of renewables, consideration of demand side response services, etc.).

Art. 25.3 related to reporting & mapping of network losses

Article 25.3 requires Member States to ensure that TSOs and DSOs map and report network losses. While TSOs today already report their losses to NRAs, it is important to ensure that any further obligations, especially with regards to the "mapping" of losses remain practicable and cost efficient. Consequently, the level of granularity attached to such mapping must be carefully chosen. The mapping of network losses for each and every per grid element for instance would be impracticable and disproportionate.

Article 25.3. further requires TSOs and DSOs to report *"expected energy savings through the reduction of network losses to the national energy regulatory authority"*. In this regard, we would like to reiterate our concerns and observations regarding technical network losses at transmission level as outlined above: since transmission losses are inherent to the transmission system and are likely to increase in absolute terms through the implementation of the EU's energy and climate policies, the focus here should be on the overall efficiency of the energy system. What is more, TSOs are already required by Directive (EU) 2019/944 to ensure efficiency when performing their tasks and NRAs monitor that they do so.⁷

Finally, Art.25.3 also suggests that *"National energy regulatory authorities shall limit the possibility for transmission and distribution network operators to recover avoidable network losses from tariffs paid by consumers"*. However, **the concept of "avoidable" losses is not defined and thus lacks a common understanding.**

In addition to our above observations on transmission losses we should emphasize that **losses are not a control variable for real-time operation** and are determined by the power flows resulting from the demand and generation profile which are, in turn, a consequence of both energy and balancing markets. These outcomes are not determined by TSOs. As a consequence, this concept should not have application in the context of the transmission system. However, if the concept of 'avoidable losses' is indispensable in the

⁶ ibid.

⁷ Art. 59, §1 (L) of the Electricity Directive (EU) 2019/944 does indeed mention that NRAs have the duty to monitor and assess "[...] the performance of transmission system operators and distribution system operators in relation to the development of a smart grid that promotes energy efficiency and the integration of energy from renewable sources, based on a limited set of indicators, and publish a national report every two years, including recommendations;

present context, then it should be defined in a process between TSOs and NRAs carefully considering all potential effects on the power system and system operations.

Art 7 - Public Procurement

Energy efficiency and sustainability criteria are to be considered by TSOs in procurement contracts, but some flexibility on the interpretation of the requirements is needed.

As a result of Art 7, TSOs will be required to *'purchase only products, services, buildings and works with high energy performance, in accordance with Annex IV'* (Art 7.1). Moreover, Member States may require contracting entities, such as TSOs *'to take into account Union green public procurement criteria'* (Art 7.5).

These proposals seem broadly consistent with provisions in other areas such as Corporate Sustainable Reporting, Sustainable Finance and the EU Taxonomy. The transposition into national law of these proposals should, however, allow for some flexibility in their interpretation:

The supply-market for TSO applications can be very tight for structural reasons. This is true in particular for specialised and innovative equipment in extra-high voltage applications, where TSOs' procurement requirements are already very strict, thus limiting the supply side to sometimes just a few providers. **Tightening procurement criteria further might eliminate some of the remaining providers, result in procurement delays or increased costs, impacting tariffs.** Therefore, the structural situation of the supply side should be borne in mind when additional procurement criteria are defined.

This, however, is not to say that the energy efficiency first principle should not be applied in TSOs' procurement processes. TSOs already today have a strong (regulatory) incentive to invest in highly efficient assets, if not least to keep the total cost of ownership (TOC) low.

Arts 2.17; 8 & 9 on energy savings obligations, energy efficiency obligation schemes and definition of obligated parties

Art 2.17 and Art 9.2 extend the concept of 'obligated parties' to transmission system operators. In our view this extension of 'obligated parties' to include TSOs contradicts the European energy market regulations. TSOs are obligated to market neutrality. A need resulting from the obligation to support their customers in implementing efficiency measures risks contradicting this neutrality requirement.

Indeed, if the right obligated parties are not well identified, this will lay the foundations for a potentially ineffective or costly mechanism, thus making the introduction of such schemes an unsuccessful policy instrument. The addition is therefore to be deleted.

About TransnetBW

TransnetBW is a certified electricity transmission system operator (TSO), operating the transmission grid in the German state of Baden-Württemberg. Through this grid, we ensure that electricity is supplied to the region, Germany and throughout Europe with interconnections to control areas within Germany as well as to Austria, France and Switzerland. TransnetBW is a member TSO of, among others, the European Network of Transmission System Operators ([ENTSO-E](#)) and the [Renewables Grid Initiative](#) (RGI).

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