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TenneT's response to the public consultation on the Climate, Energy and Environmental Aid Guidelines (CEEAG), (TenneT EU Transparency register 289810215426-07)

Introduction

TenneT would like to thank the European Commission for launching a public consultation on the revised Climate, Energy and Environmental Aid Guidelines (CEEAG). We herewith would like to take the opportunity by responding to the proposed CEEAG in writing.

On a general basis we recognise the need to enlarge the scope of the environmental protection and energy guidelines 2014 – 2020 to new areas and technologies in order to deliver on the European Green Deal and to achieve the overall climate reduction goals of the European Union. As a Transmission System Operator (TSO) for electricity the proposed rules of chapters 4.1 "Aid for the reduction and removal of greenhouse gas emissions including through support for renewable energy" and 4.8 "Aid for the security of electricity supply" are of particular interest to our business and activities. On the one hand we very much welcome the proposal of the European Commission to take a more holistic approach on the energy system integration in the CEEAG by for instance exposing beneficiaries of aid also to their impact on the transmission grid e.g. creating bottlenecks (see TenneT's comments to point 102 CEEAG) and suggest to even go one step further. On the other hand by defining the term 'interruptibility scheme' for the first time in the CEEAG and thereby extending the scope of this scheme to the compatibility rules of the CEEAG in particular regarding additional emission requirements also to network reserves (see TenneT's comments on point 285 in conjunction with point 325 CEEAG), the permissible operating hours per year would be limited and thus the stability of the transmission grid might be put at risk.

Who we are

As a leading European grid operator for electricity, active in the Netherlands and Germany, TenneT is committed to providing a secure and reliable supply of electricity 24 hours a day, 365 days a year, while helping to drive the energy transition in our pursuit of a brighter energy future – more sustainable, reliable and affordable than ever before. In our role as the first cross-border TSO we design, build, maintain and operate 23,900 km of high-voltage electricity grid in the Netherlands and large parts of Germany, and

facilitate the European energy market through our 16 interconnectors to neighbouring countries. We are one of the largest investors in national and international onshore and offshore electricity grids, with a turnover of EUR 4.5 billion and a total asset value of EUR 27 billion.

I. General comments

Whereas both predecessors of the CEEAG mentioned an end date[1] and notwithstanding point 415 of the CEEAG which includes a general rule on future revisions of CEEAG, TenneT argues that having an **explicit end-date referred to in the CEEAG** would offer greater regulatory certainty, while allowing potential amendments which may be needed as a result of changing market circumstances or new regulation and policies.

II. Chapter 4.1 Aid for the reduction and removal of greenhouse gas emissions including through support for renewables (points 73 – 113 CEEAG)

TenneT welcomes the proposal by the European Commission to extend the evaluation of the measure to the impact of the beneficiary on the stability of the transmission network or the available capacity of the energy infrastructure. The proposed point 83 lit. e) and point 102 CEEAG can be taken as an indication that the assessment on the eligibility of measures aiming to reduce CO_2 emissions and/or to increase renewable energy generation also takes into account their impact on the energy network. Thereby the European Commission introduces the principle of "energy system integration" to the compatibilities rules applicable to national aid measures in the area of climate, energy and environment. We highly **support the European Commission** for taking this step as it does not only put the aid measure itself but also the beneficiary of the measure in a more holistic perspective by incorporating the impact on the energy system and its infrastructures as such, for instance related to the curtailment of renewable electricity or network stability.

1. Point 102 of CEEAG should be extended to guarantee locational incentives for supported measures

In order to strengthen the overall principle of Energy System Integration also within the CEEAG it should be ensured that subsidised projects contributing to greenhouse gas reductions or to an increase of renewable energy should **not unnecessarily increase the economic costs of the energy system** for the society, for example by putting disproportionate burden on energy infrastructure.

On the one hand, copper-plating the electricity system to ensure the integration of every produced kWh of renewable electricity comes at high societal costs, in particular with regards to infrastructure investments, should be taken into consideration when assessing the associated benefits of a complete integration of renewable energy. Consequently, limitations in infrastructure capacity are to some extent economically reasonable and require that beneficiaries, similar to other technologies, shall be exposed to the risk of temporarily limited infrastructure capabilities by **participating in redispatch measures**. This is already the

[1] The EEAG 2014 – 2020 is applicable until 31 December 2020 – eventually prolonged by one year – according to point 246 of the EEAG 2014 – 2020 and 31 December 2014 was mentioned as the end date of the EEAG 2008 – 2014 (see point 203 sentence 1 of the EEAG 2008 – 2014)

case in some Member States. In Germany renewable energy sources are already exposed to the risk on network congestion (§14 EEG).

On the other hand, alternative infrastructure options can become available with the implementation and market diffusion of new sector coupling technologies, like hydrogen produced via electrolysis that is being transported to demand centres via pipelines. Whereas it is in the meantime widely recognised that the deployment of electrolysers and scale-up of hydrogen is essential for the energy transition to be successful and reaching climate neutrality, the right choice of the location of these electrolysers and its impact on the energy system should not to be underestimated. Electrolysers to produce hydrogen from RES can be either placed close to the RES generation or at the demand centre for hydrogen. While in the first case hydrogen is being produced from renewables and transported via repurposed existing (gas) or newly built pipelines, the latter option demands for extending the electricity transmission to transport more RES for the production of hydrogen, which is expected to come at higher economic costs compared to the hydrogen production close to the RES generation . In order to minimise the societal cost for extending the electricity transmission grid and to take into consideration the whole energy system i.e. electricity, gas and hydrogen infrastructure to the greatest possible extent, **users of the energy system should be properly incentivized to account for these infrastructural options** in their decision making, e.g. financial incentives for specific location or spatial limitations. In our view, this is particularly relevant for new (most likely subsidised) technologies to avoid unwanted developments and the entering into severe path dependencies.

Hence, we recommend to **strengthen and extend the rule of point 102 of the CEEAG** in order to guarantee that the impact on the energy system and thereby higher societal costs are limited as much as possible. Consequently we suggest the **following amendment of the wording of point 102 CEEAG** (whereas the parts highlighted in green are extensions to the original proposal of point 102 CEEAG):

> Beneficiaries of the measure ~~should~~ *shall* be exposed to risks that they can contribute to managing *and to system costs they contribute to generate*, for example risks associated with the curtailment of renewable energy linked to period of excess production, ~~or,~~ to insufficient transmission *and limiting the cost of extending and operating the energy infrastructure*.

2. Point 83 CEEAG should be strengthened even further to accommodate the integration of the energy system

In addition to our presented arguments for strengthening point 102 of the CEEAG to ensure integration of the energy system at lowest cost for society, we **welcome the proposal of the European Commission by adding "issues related to network stability"** (point 83 lit. e) CEEAG) when assessing the eligibility of decarbonisation measures according to point 82 ff. CEEAG. First of all, we assume that point 83 CEEAG also refers to RES and not just decarbonisation, but think this should be made more explicit in the phrasing of this point. Secondly, instead of phrasing the measures of point 83 lit. a) – f) CEEAG only as positive indicators and even putting some of the responsibilities for setting-up counteractive measures to the Member State level (see footnote 55 of the CEEAG), the CEEAG should consists of more concrete compatibility rules for measures. Thus, decarbonisation or RES measure should not induce grid stability issues, or in an economically inefficient build-out of energy infrastructure (ex-ante) and participate in mitigation measures, such as re-dispatching (ex-post).

III. Chapter 4.8. Aid for the security of Supply (points 284-327 CEEAG)

On an overall basis the requirements of the CEEAG on capacity reserves can impact system security if the existing reserve instruments fall under the requirement of approval under European state aid law. As proposed by the CEEAG, strategic reserves that are not a capacity mechanism must also fulfil the requirements of the Electricity Regulation (EU) 2019/943. In this context, additional emission requirements arise in particular for the network reserve. If the emission requirements are to be applied as suggested by point 325 CEEAG, the permissible operating hours per year and plant would be limited. The resulting restrictions on operating hours could stand in the way of the sensible use of the grid reserve. It must be ensured that individual plants of the power plant reserves also remain operational without further restrictions to guarantee system security. Consequently, **emission requirements should not be extended to strategic reserves as they do constitute a capacity mechanism** in the first place. It is of great importance to recognise conventional power plants having higher emission thresholds than those proposed by the European Commission as playing a relevant role for the energy system and thus to be part and used as system reserves to maintain secure grid operation.

1. Definition of the term 'Interruptibility Scheme' (point 18 (47) CEEAG) should to be amended

For the first time the term ‘interruptibility scheme’ is being defined in state aid rules for climate, energy and environment. However, the proposed definition is **not consistent** with the nature of such services: interruptibility schemes as such are aimed at **guaranteeing security of the electricity system**, rather than security of energy supply. Furthermore, 'interruptibility schemes' belong to the Defence system and thereby fall under the scope of the Regulation (EU) 2017/2196 establishing a network code on electricity emergency and restoration (see paragraph below).

Moreover, the definition proposed in the draft CEEAG (point 18 (47) CEEAG) is broader in scope than previously used in case law on state aid, such as cases SA.43735 (related to interruptibility schemes in Germany) or SA.48780 (related to interruptibility schemes in Greece) whereby the term of interruptibility schemes was used much more narrowly, limiting it to demand side response. A broader definition of the term as proposed in the draft CEEAG would include *Special Network Operating Resources* used by TSOs to keep n-1 safety in events of actual failures of operating resources. If, in addition, emission thresholds of Article 22 of Regulation (EU) 2019/943 are applicable to interruptibility schemes, as implied in point 325 CEEAG, TSOs capability to maintain system safety is being impaired.

Considering that TenneT does **not agree** with the extension of the scope of the CEEAG to either interruptibility schemes or network reserves for the reasons stated in the following paragraphs, TenneT recommends to **remove the definition 18 (47) CEEAG** since it would be redundant in the CEEAG text. In any case, and for the sake of clarity and completeness, TenneT argues that the **definition of “interruptibility scheme”** should be the following, in line with the description provided in this response in the subsequent paragraph;

> *interruptibility scheme’ means a measure designed to contribute to defend the dynamic and static stability in the electricity system or address short term network security problems by interrupting load*

Furthermore, when considering the applicability of criteria used for assessing the compatibility of adequacy measures, the distinction between adequacy and congestion management measures should be respected. In this regard, the following legal provisions should be taken into account:

- Article 2(22) of Regulation (EU) 2019/943 defines capacity mechanism as a “temporary measure to ensure the achievement of the necessary level of resource adequacy by remunerating resources for their availability, excluding measures relating to ancillary services or congestion management”;
  - Thus, it is clear that network reserves, under which resources are kept online to ensure sufficient resources for congestion management, are not capacity mechanisms and should be treated separately;
  - Moreover, Chapter IV of Regulation (EU) 2019/943 is entitled 'Resource adequacy' and does not deal with congestion management, which is, in turn, covered by Chapter II, in particular by Article 13 - 'Redispatching';
- Article 3(68) of Regulation (EU) 2017/1485 (System Operation Guideline) defines 'adequacy' as “the ability of in-feeds into an area to meet the load in that area”, while network issues are covered by the wider term 'operational security' – defined in Article 3(1) as the “transmission system's capability to retain a normal state or to return to a normal state as soon as possible, and which is characterised by operational security limits”;
- Article 2(1) of Regulation (EU) 2019/941 (Risk Preparedness Regulation) defines ‘security of electricity supply’ as “the ability of an electricity system to guarantee the supply of electricity to customers with a clearly established level of performance, as determined by the Member States concerned”; then, Article 4 of that Regulation refers to rules on adequacy, i.e., Chapter IV of Regulation (EU) 2019/943, which suggests that security of supply is understood with a focus on adequacy.

The above shows that the measures designed and implemented by TSOs are subject to a complex legal framework, and terms must be used precisely to cover the right measures within the scope of the respective regulatory requirements. In order to ensure regulatory quality and certainty, we invite the Commission to **reconsider the terminology used in the draft CEEAG**, so that appropriate compatibility criteria can be applied to the respective measures where they are considered to constitute state aid.

2. Extension of application of CRM rules to all Security of Supply measures (points 285, 321(a), (b), (c) CEEAG)

'Interruptibility schemes' and network reserves

According to point 285 CEEAG, the application of the guidelines is extended to cover interruptibility schemes and network reserves too, with the effect of enlarging the scope of application of the Regulation (EU) 2019/943 to measures other than capacity mechanisms. Besides the fact that such a result should not be achieved through a State Aid Guidelines revision, this expansion is critical especially with regards to points 321 and 324 CEEAG.

Network Reserves

The differences between network reserves and strategic reserve are related to balancing. These can be assessed based on two main criteria:

- With regards to the type of market failure being tackled, while network reserves address the lack of economic feasibility of resources needed in specific parts (e.g. nodes) in the system, strategic reserves on the other hand deal with the feasibility of resources that can in principle be placed anywhere in the system;
- Activation purposes should also be considered as a key source of difference, since the former aims primarily at solving congestions in the grid, while the latter covers demand not covered by resources available in the market.

Point 321 (a) CEEAG reads: "The resources of the measure are to be dispatched only if the transmission system operators are likely to exhaust their balancing resources to establish an equilibrium between demand and supply". This requirement cannot be applied to any measure that aims to resolve grid congestions or ensure voltage stability. Balancing resources, in turn, are only activated to balance demand and supply but without considering the status of the grid loading and thus have a completely different purpose to network reserves.

Another limitation holds for **point 321 (b) CEEAG** which aims at setting a lower price limit "at least at the value of lost load or at a higher value than the intraday technical price limit, whichever is higher" for the imbalance price for periods with an activation of security of supply measures. This is reasonable for strategic reserves, which aim to achieve load coverage, but not for network reserves. There is no link between the amount of the system imbalance (which shall be punished by high imbalance prices in critical situations) and the activation of network reserves, which is necessary to resolve grid congestions. In fact, resolving grid congestions is a TSO task and balancing responsible parties (BRPs) have no influence on the necessary measures. In this sense, it should be generally rejected to allocate the activation costs to the market participants who contribute to the need for network reserves as **point 324 CEEAG** stipulates. The proposal "For example, this may be achieved by allocating the costs of a security of supply measure to electricity consumers in periods of peak electricity demand" (point 324 sentence 2 CEEAG) does not fit to situations with grid congestions, as they can also occur in other situations (e.g. high wind and low demand in Germany). Additionally, it is also not possible to attribute the output of network reserves to BRPs through the imbalance settlement mechanism as proposed in **point 321 (c)** CEEAG. Consequently we recommend **not to apply points 321 and 324 CEEAG** to network reserves.

3. Additional constraints on gas, other conventional fuel plants (points 320, 325 and 326 CEEAG)

According to **points 320 and 325** CEEAG the CO_2-emission requirements as defined by Article 22 of Regulation (EU) 2019/943 should be extended to network reserves and interruptibility schemes. This proposal would limit TSOs' ability to cope with grid congestions as it would limit the running hours of network reserves used for congestion management.

If these emission requirements are applied, the permissible operating hours per year and plant would be limited for existing plants in the grid reserve from 2025. The resulting restrictions on operating hours may prevent the reasonable use of the grid reserve beginning in July 2025.

It must be ensured that individual plants in the grid reserve also remain operational without further restrictions to ensure system security. The **emission requirements should therefore not be extended beyond capacity mechanisms pursuant to Article 22 of Regulation (EU) 2019/943.**

Notwithstanding the importance of avoiding a lock-in of gas-fired energy generation as far as possible in view of achieving the EU's climate targets, all kinds of capacities respecting the specific emission limits set by Regulation (EU) 2019/943 should be eligible for support if needed to ensure security of supply at a reasonable cost coherently with the technological neutrality principle contained in European Legislation. In fact, the criteria introduced by the Regulation (EU) 2019/943 were already aimed at ensuring that possible negative environmental externalities are adequately addressed. Considering all the above, we would like to stress once again that the application of State Aid Guidelines must avoid any overlap with the provisions set in Regulation (EU) 2019/943, since they pose a risk of incompatibility and legal uncertainty.

Conclusion

TenneT takes its role as a green TSO aiming to accelerate the energy transition and decarbonisation of society also with regards to measures and services to ensure stability of the grid very serious. We are committed to make progress in extending the transmission grid in the Netherlands and in Germany to transport RES and limit the use of conventional power plants as part of the network reserve and *Special Network Operating Resources* to the greatest extent possible. In fact there is a direct correlation between the amount of conventional power plants as part of these measures and the extension of the transmission grid and investment into strengthening the transmission infrastructure, which decreases with the speed and progress of the latter. Furthermore, conventional power plants should be substituted by green and decarbonising technologies/options to be part of the network reserve scheme, if these technologies/solutions can provide a comparable physical effect as well as comparable technical and quality parameters like the existing power plants.

Against the background of an accelerated extension of the electricity infrastructure to transport more renewable electricity and thereby building a cornerstone for the energy transition, increased electrification and reaching the climate targets, we very much support the integration of the whole energy system into the CEEAG and respectively the impact of supported measures on the transmission grid . It is of utmost importance that the cost of society when extending the energy infrastructure should be as low as possible and that alternative solution for transporting energy e.g. hydrogen via pipelines to customers and demand centres should be considered also under the compatibility rules of the European state aid guidelines.