

## Public Consultation on the Agency draft Opinion providing technical guidance on the calculation of the values related to CO2 Emission Limits in Capacity Mechanisms

Fields marked with \* are mandatory.



The objective of this consultation is to gather views and information from stakeholders regarding the Agency's draft Opinion providing technical guidance on the calculation of the values related to the emission limits in Capacity Mechanisms. These emission limits have been introduced in Article 22(4) of Regulation (EU) 2019/943 and are referred to generation capacity for participating in Capacity Mechanisms.

This consultation is addressed to all interested stakeholders, including regulatory authorities, capacity providers and transmission system operators.

**Replies to this consultation should be submitted by 22 October 2019 23:59 hrs (CET).**

The Agency's draft Opinion is available for download in the side pane on the right.

### 1 General

\* 1.1 First Name

Gaëtan

\* 1.2 Surname

Claeys

\* 1.3 Email

gaetan.claeys@eugene.eu

\* 1.4 Organisation Name

EUGINE - European Engine Power Plants Association

\* 1.5 Are you or do you represent a:

- ☐ EU institution
- ☐ National Regulatory Authority
- ☐ Transmission system operator
- ☐ Distribution system operator
- ☒ Industry association of power plant producers
- ☐ Capacity provider
- ☐ Researcher/academia
- ☐ Standardisation organisation
- ☐ Other

1.6 Transparency Register Number (format: 12345678901(2)-34)

033807913798-84

Check if your Organisation is on the [Transparency Register](#).

It's a voluntary database for Organisations seeking to influence EU decision making.

\* 1.7 Country

Belgium

1.8 How familiar are you with Regulation (EU) 2019/943?

- ☒ I have detailed knowledge of the Regulation, its objectives, and the new requirements/provisions
- ☐ I am aware of the existence of the Regulation but not of all its specific contents
- ☐ I do not really know the Regulation

1.9 Should the following answers to this public consultation be treated as confidential?

- ☐ Yes
- ☒ No

1.10 Respondents claiming confidentiality are invited to provide an explanation of their confidentiality interests

The Agency will publish all non-confidential responses, and it will process personal data of the respondents in accordance with Regulation (EC) No 45/2001 of the European Parliament and of the Council of 18 December 2000 on the protection of individuals with regard to the processing of

personal data by the Community institutions and bodies and on the free movement of such data, taking into account that this processing is necessary for performing the Agency's consultation task.

For more details on how the contributions and the personal data of the respondents will be dealt with, please see [the Agency's Guidance Note on Consultations](#) and the specific privacy statement referred to this consultation.

## 2 Background Information

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### Related documents

- [Regulation \(EC\) No 713/2009 of the European Parliament and of the Council of 13 July 2009 establishing an Agency for the Cooperation of Energy Regulators](#)
- [ACER Guidance Note on Consultations](#)
- [Regulation \(EU\) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity \(recast\)](#)

### Background

In accordance with Article 22(4) of Regulation (EU) 2019/943, by 5 January 2020, ACER shall publish an opinion providing technical guidance related to the calculation of the values referred at in the first subparagraph of the same article.

These values set the following emission limits for the participation of generation capacity in capacity mechanisms:

- From 4 July 2019 at the latest, generation capacity that started commercial production on or after that date and that emits more than 550 g of CO<sub>2</sub> of fossil fuel origin per kWh of electricity shall not be committed or to receive payments or commitments for future payments under a capacity mechanism;
- From 1 July 2025 at the latest, generation capacity that started commercial production before 4 July 2019 and that emits more than 550 g of CO<sub>2</sub> of fossil fuel origin per kWh of electricity and more than 350 kg CO<sub>2</sub> of fossil fuel origin on average per year per installed kW<sub>e</sub> shall not be committed or receive payments or commitments for future payments under a capacity mechanism.

In the context of adopting this Opinion, the Agency seeks the views of stakeholders on the key concepts of the draft Opinion.

### 3 Consultation Topic 1: Scope of the Technical Guidance

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Section 5 of the draft Opinion outlines the scope of application of the technical guidance, including a detailed interpretation of the 'generation capacity' that should be subject to the limits and considerations on other relevant legislations.

#### 3.1 Please provide your comments on Section 5 of the draft Opinion.

The manufacturers of gas power plants welcome the proposed clarification of the concept of 'generation capacity'. Another relevant example of units working in tandem, similar to the combination of a gas and a steam turbine (CCGT), would be gas engines working with an Organic Rankine Cycle.

On the remunerating aspect, article 22(4) only refers to CO<sub>2</sub> of fossil fuel origin. No requirements are needed for renewable fuels. We do not see any reason why criteria from RED II should automatically apply in the completely different context of a capacity mechanism aiming at ensuring security of supply and whose generating units might only run few hours a year.

The last paragraph should be formulated in a more neutral way, ending after the following useful legal clarification: "Finally, the Agency's Opinion, does not prevent Member States from being more ambitious in fostering the achievement of EU decarbonisation targets." The last sentence should be deleted as it is not the Agency's task to go into the details of what the Member States may adopt for national policies.

Finally, in line with article 22 of regulation 2019/943 (electricity market regulation) and the first sentence of draft Opinion's section 5, the scope of the Opinion is to be limited to 'generation capacity'. Thanks to the recently adopted directive 2019/944 (electricity market directive), storage is not anymore in a grey zone between generation and consumption as it is defined under article 2: 'Energy storage' means, in the electricity system, deferring the final use of electricity to a moment later than when it was generated, or the conversion of electrical energy into a form of energy which can be stored, the storing of such energy, and the subsequent reconversion of such energy into electrical energy or use as another energy carrier. As a matter of principle, any reference to storage, be it energy storage or electricity storage (see section 6.6.), should be removed from the text as it is outside of the scope of this Opinion.

### 4 Consultation Topic 2: Emission Calculation Issues

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Section 6 of the draft Opinion provides technical guidance on specific emission calculation issues, mainly related to different fuels and technologies that are widely used in power generation.

Specifically, the document covers the following issues:

- Waste-to-energy and mixed fuels
- Synthetic fuels
- Hydrogen
- Transferred CO2
- Upstream emissions
- Electricity storage
- Cogeneration
- Demand side response
- Greenhouse gases other than CO2

#### 4.1 Please provide your comments on Section 6 of the draft Opinion.

Our main concerns in this section are:

- the missing methodology for cogeneration plants
- the deviation from the legislative text on CO2 emissions

Please find below in detail our comments on the above mentioned issues. Due to the lack of space to provide all our comments related to the other issues, additional remarks are provided under question 7.1:

##### Cogeneration:

The missing calculation methodology for heat generated by cogeneration plants is a major surprise and concern for manufacturers of gas power plants. Cogeneration, “the simultaneous generation in one process of thermal energy and electrical or mechanical energy”, on-site or in connection with district heating, is a valuable contributor for the EU to meet its energy and climate targets whose benefits are recognised by the energy efficiency directive (see article 14). Cogeneration makes a better use of the primary energy source, avoids electricity losses due to long-distance power transportation and reduces the need for power grid reinforcement.

A major specificity of cogeneration plants is that the ratio of electricity vs. heat production may vary over time, depending on expected consumption of electricity and heat. Capacity mechanisms are for the electricity markets only and therefore not a tool to promote efficient cogeneration. However, attributing the full emissions to electricity part of generation is inadequate and disadvantages the technology.

There are calculation methods available that enable splitting and allocating

the emissions in a reasonable way to the electricity generated and to the heat part. This approach would allow for a level playing field.. ACER should recommend Member States to follow the EIB methodology, called the 'heat bonus' approach. This method, mentioned again in the latest policy document of the EIB (see page 37 of the revised draft EIB energy lending policy from 26 September 2019), is used by the EIB to assess whether cogeneration capacities are compliant with CO2 emission limits. The EIB calculates the specific emissions of power generation in a cogeneration plant as follows: Specific CO2 emission of power generation by cogeneration plant capacity = (Total CO2 emissions of the cogeneration plant - emissions of an alternative source) / Total electricity generation of the cogeneration plant.

We understand that some decision-makers wanted to avoid that cogeneration plants with higher emission levels remain below the 550g CO2/kWh threshold. Should ACER wish to follow this approach, the Agency could specify that the 'heat bonus' approach is not applicable to "energy generation facilities that use solid fossil fuels" as mentioned in the similar context of directive 2018/410 (most recent ETS revision). This compromise solution would help both reaping the benefits of gas-based cogeneration and avoiding the higher emissions from solid fossil fuels.

Greenhouse gases other than CO2:

According to article 22 of regulation 2019/943 (electricity market regulation): "By 5 January 2020, ACER shall publish an opinion providing technical guidance related to the calculation of the values referred in the first subparagraph." While 'non-binding opinions' have been part of ACER traditional activities, providing technical guidance on generation capacities participating in capacity mechanisms is a new task which has been given to the Agency. Providing a 'technical guidance' for a specific legislation is generally understood as providing technical details on how provisions of a legislative text should be implemented. This does not include modifying part(s) of the legislative text, as this is the only role of the competent EU institutions, the European Parliament and the Council of the European Union. In our view, and certainly also in the view of the two aforementioned EU institutions, this approach applies to all parts of article 22, including the several references to 'CO2' which should not be modified ex-post. We believe that 'CO2' should remain 'CO2' like the '550g' should remain '550g' and no single organisation is entitled to request from Member States that they implement the legislative text another way. From a legal point of view, we would recommend the Agency to stick to the text discussed and approved by MEPs and the 28 EU energy ministers, meaning to focus only on CO2 and delete anything going beyond the CO2 requirements.

## 5 Consultation Topic 3: Calculation Formulae

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Section 7 of the draft Opinion provides formulae for the calculation of the values introduced in Article 22(4) point (a) and (b) of Regulation (EU) 2019/943, together with the Agency's recommendation on issues linked to the provided formulae.

## 5.1 Please comment on the suggested approach to calculate the Specific Emissions of the generation capacity

We welcome the objective of ACER that article 22 is implemented without creating unnecessary burden for all parties concerned. To meet this objective, we believe that using the standard emission factors listed in Annex VI of implementing regulation 2018/2066 would be the most straightforward solution. We understand that using the ETS methodology for power plants would lead to unnecessarily complex calculations and create some discrepancy between power plants falling inside and outside of the ETS directive. As a consequence, we would recommend to ACER to apply reference emission factors listed in Annex II (to be updated, to focus only on CO<sub>2</sub>) to all generation capacities concerned.

In line with the comments made above in the section on 'Greenhouse gases other than CO<sub>2</sub>', we recommend ACER to remove the reference to other greenhouse gases than CO<sub>2</sub> and to the calculation of the equivalence between the different greenhouse gases.

## 5.2 Please comment on the suggested approach to calculate the Total Emissions of the generation capacity

The manufacturers of gas power plants would like to underline that historical values from the "last three full calendar years before the pre-qualification" are impacted by the operational regime of that period and will not match with future values impacted by other kinds of operational regimes. This is particularly important in the context of the current energy transition, where both market conditions and electricity generation evolve quickly.

# 6 Consultation Topic 4: Documentation and Monitoring

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In Section 8, the draft Opinion gives guidance on the minimum content of the documentation that should be received by the competent Authority during the pre-qualification process and, in Section 9, proposes an approach to ensure the reliability of data used as input to the formulae. In this regard, values as the amount of carbon captured in CC<sub>2</sub> units and emission factors of mixed-fuels units and waste-to-energy are considered. Also, the draft Opinion includes a specification for generation units that started commercial production before 4 July 2019 and, at time of pre-accreditation, has less than three years of commercial production.

## 6.1 Please provide your comments on Section 8 of the draft Opinion.

The documentation section of the draft opinion seems to strike the necessary balance between ensuring accuracy of information and avoiding unnecessary burdensome procedures.

For 'applied ISO standard', a reference could be made to "Annex III of this opinion" where all relevant standards are listed.

## 6.2 Please provide your comments on Section 9 of the draft Opinion.

We understand the necessity for some level of ex-post verification of the assumptions provided ex-ante. Nevertheless, it should be clear that design efficiency is based on a specific operating mode which does not mirror the conditions for a specific plant. Ex-ante assumptions and ex-post data from real life cycling will be very different figures. Consequently, the paragraph starting with “this ex-post monitoring activity...” should be modified to not give the impression that the “unit performance” may be precisely checked but only the amount of electricity produced and fuel consumed.

## 7 Conclusion

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### 7.1 Please provide any further comment on the draft Opinion

Continuation of comments relevant to issues mentioned in question 4.1 (due to lack of space):

Waste-to-energy and mixed fuels:

‘Mixed fuels’ are an important topic for the energy system as increasing shares of renewable gases in gas pipelines are expected for the coming years and decades. As renewable fuels are not concerned by the CO<sub>2</sub> emission limit, it should be clearly stated here that the emission factor attributed to the renewable fraction (e.g. biomethane, hydrogen...) of the overall gas composition will be zero.

Synthetic fuels:

As the CO<sub>2</sub> emission limits only apply to fossil fuels, the first paragraph should differentiate between CO<sub>2</sub> from fossil fuel origin and CO<sub>2</sub> from natural origin, by adding the following sentence: "However when using synthetic fuels produced of CO<sub>2</sub> emissions captured directly from the ambient air or from renewable fuel origin, the CO<sub>2</sub> emissions shall not be taken into account when calculating the values referred in point (a) and (b) of Article 22(4) of EU 2019/943".

In a similar way, a distinction should be made at the end of paragraph 3 by adding the following sentence: "In order to avoid double counting, where the plant in which the CO<sub>2</sub> of fossil fuel origin is captured has already paid for the allowances (including the captured CO<sub>2</sub>), the captured CO<sub>2</sub> of fossil fuel origin used at a later stage, in e.g. synthetic fuel production, shall not be taken into account when calculating the values referred in point (a) and (b) of Article 22(4) of EU 2019/943".



#### Hydrogen:

As hydrogen-related technologies are evolving quickly, ACER should adopt a technology-neutral wording reading as follows: “Hydrogen can be used for electricity production in stationary fuel cells, gas internal combustion engines and gas turbines.” For more details on hydrogen-driven gas turbines, please visit [www.powertheeu.eu](http://www.powertheeu.eu)

#### Storage:

See comments on section 5. As storage does not match with the concept of ‘generation capacity’, it is out of scope and should not be mentioned in the Opinion.

#### Demand side response:

‘On-site generation back-up units’ are ‘generation capacities’ without any specificity requiring a special heading such as “demand-side response”. The section could be deleted.

In addition to the comments made above, we would like to draw the attention of the Agency to the following points:

- p.4: definition (h) ‘fossil fraction’ should be corrected as it should refer to article 3 (37) instead of article 2 (37) of Directive (EU) 2018 /2066.
- p.5: definition (l) of ‘net electricity output’ mentions the ‘network’ and should therefore clearly state where the network starts to ensure a very clear view on what is to be included or not.
- p.5: definition (p) ‘total emissions of the generation capacity’ should be defined as “the ratio between the quantity of CO<sub>2</sub> emitted during one calendar year and the installed nominal capacity, calculated on the basis of design efficiency, expressed in kg/kWe”.
- p.5: as a logical consequence of our comments on ‘greenhouse gases other than CO<sub>2</sub>’ drafted under section 6 above, definitions (q) and (r) should be removed, whereas definitions (o) and (p) should be corrected to include only CO<sub>2</sub> emissions, no other greenhouse gas.
- p.12: the reference to ‘capacity markets’ should be replaced here by the broader and more suitable concept of ‘capacity mechanisms’ which includes as well ‘strategic reserves’ (like in Germany) and ‘capacity payments’ (like in Spain) in addition to ‘capacity markets’ (like in France, UK, Poland).
- p.18: the list of relevant standards should include a reference to ‘EN 50456 for fuel cells’ and the second reference for gas turbines should be corrected as the right reference is: ‘ISO 3977-3:2004’

## Background Documents

[Draft Opinion \(/eusurvey/files/3e9491d3-c62a-46ea-b575-378b52473ffa\)](#)

## Contact

