Consultation on the revised Climate, Energy and Environmental Aid Guidelines (CEEAG)

July 2021

EUTurbines, the European association of gas and steam turbine manufacturers, welcomes the possibility to comment on the European Commission's Draft Climate, Energy and Environmental Aid Guidelines (CEEAG).

Gas power plants powered by engines or turbines are an optimal solution for both backing up and generating electricity from renewable sources. Cogeneration, the combined generation of power and heat, is another typical gas power plant application.

In a net-zero energy system, gas power plants will run on waste-based biogas and biomethane or hydrogen. They will balance the electricity sector through Power-to-X-to-Power and help the agricultural and waste sectors utilise biomethane that would otherwise escape into the atmosphere.

We therefore very much welcome that the Commission, in its draft guidelines, recognises the future value of gas power plants and their contribution to decarbonisation. We would nevertheless like to propose a number of adjustments to the proposed text, especially in what concerns the compatibility criteria for natural gas, the technology-neutrality of security of supply measures and references to the EU Taxonomy.

Compatibility criteria for power generation with natural gas

The current draft guidelines require Member States to "explain how a lock in of this gas-fired energy generation or gas-fired production equipment will be avoided" (points 110, 326, 348).

It is important to understand that gas-fired power generation is not bound to natural gas and that the technology is also capable of operating with renewable and decarbonised gases, including hydrogen. In other words, "gas" does not equal "natural gas"; which is why support to gas-fired power generation does not automatically lead to a carbon lock-in.

It would therefore be better, for the sake of clarity, specifying that the possible lock-in is connected to the use of natural gas only (in points 110, 326, 348):

> *Member States must explain how they will ensure that the investment contributes to achieving the Union's 2030 climate target and 2050 climate neutrality target. In particular, the Member States should explain how a lock in of this gas-fired energy generation or gas-fired production equipment into natural gas will be avoided.*

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The draft guidelines then give examples of how such a fuel lock-in to natural gas can be avoided. As stated above, gas-fired power generation is not bound to natural gas but is adapted to a specific gas quality at the point of commissioning. Therefore, any binding commitment to switch to renewable or low carbon gas will materialise in the technology chosen at the point of commissioning.

For example, today, equipment manufacturers are making their gas engines and gas turbines hydrogen-ready. New plants are being designed and built to operate with hydrogen or be prepared to be easily upgraded to a higher share whenever the hydrogen becomes available.

A hydrogen-readiness label will allow utilities and customers to decide for what hydrogen shares (up to 100%) the new plant shall be suited. Modifications for the use with a higher hydrogen level will be possible.

In the light of the above, we would suggest modifying the proposed wording as follows (in points 110, 326, 348):

> *For example, this may include binding commitments ~~by the beneficiary~~ to install technology ready for the use with renewable and climate-neutral gases (for example, "hydrogen-ready" technology) and ensure the substitution of natural gas by renewable or low carbon gas, or to implement decarbonisation technologies such as CCS/CCU ~~or substitute natural gas by renewable or low carbon gas~~ or to close the plant on a timeline consistent with the Union's climate targets.*

<u>Eligible costs to support the operation of environmentally friendly solutions</u>

Eligible costs should consider the additional capital and operational expenditures compared to a reference power generation solution based on carbon-based fuels. While the funding for capital expenditures is related to short-term investment activities, the funding for operational expenditures should support the operation of the plant, until the cost gap between the environmentally harmful and friendly solution is fully closed.

Such support shall motivate plant operators to invest in existing and new plants and, therefore, accelerate the market development for environmentally friendly solutions e.g. hydrogen-based power generation. This will avoid stranded assets of existing power plants and, at the same time, provide certainty for plant operators. Environmentally friendly power plants, such as hydrogen-based power plants are needed to secure grid stability and to provide back-up power when there is no wind and no sun.

To clearly incorporate this aspect, we would suggest adding a specific reference in point 82 in addition to the following wording in points 103 and 340:

> *[…] Under certain boundary conditions (e.g. time constraints), the operating cost gap between the environmentally friendly and the established environmentally harmful solution can be covered by state aid up to 100% to initiate economy of scale effects.*

<u>Aid for the security of electricity supply (section 4.8.)</u>

The published draft contains several paragraphs allowing Member States to reduce the participation or to exclude more "polluting technologies". While the need to limit support to climate-compliant technologies and fuels is welcome, this needs to be done based on clear criteria defined in existing legislation. Today, clear emission thresholds are set in Regulation 2019/943 on the internal market for electricity.

General references to “more polluting technologies” under the security of supply section go against the principle of technology neutrality and should be avoided. In addition, it should be underlined that the main aim of security of supply measures is not to protect the environment, but to protect the reliability of electricity supply. Thanks to their technical capabilities, gas power plants are used to provide back-up (emergency) power or grid stability services. In those cases, their actual running hours are extremely low, and their total annual emissions will also be low.

Therefore, we would suggest deleting point 286 and amending point 304 as follows:

> *Member States ~~are encouraged to~~ can introduce additional criteria or features in their security of supply measures to promote the participation of greener technologies ~~(or reduce the participation of polluting technologies)~~ necessary to support the delivery of the Union’s environmental protection objectives. Such additional criteria or features must be objective, transparent and non-discriminatory in relation to clearly identified environmental protection objectives, and must not result in the overcompensation of beneficiaries.*

Finally, in addition to the assessments to be conducted by Member States outlined in point 299, we suggest specifically analysing the impact of end-use electrification on seasonal, weekly and daily peak demand – so that the stability of the system can be ensured at all times.

Reference to the EU Taxonomy

Point 69 states “the Commission will pay particular attention to Article 3 of Regulation (EU) 2020/852 of the European Parliament and of the Council, including the ‘do no significant harm’ principle, or other comparable methodologies.”

In addition, point 113 under section 4.1.4. “Avoidance of undue negative effects on competition and trade and balancing”, states that “the Commission will typically find the balance for decarbonisation measures to be positive (that is to say, distortions to the internal market are outweighed by positive effects) in the light of their contribution to climate change mitigation […] as long as there are no obvious indications of non-compliance with the do no significant harm principle.”

It is our view that the basis for the assessment of environmental impacts should be environmental standards, not a general principle set out in the EU Taxonomy Regulation. In addition, given that the delegated acts under the EU Taxonomy are still under development, it would be premature to link the revised Guidelines to the DNSH values found in them. Finally, given the fact that those delegated acts can be reviewed within relatively short timeframes and without going through a thorough political debate/screening, such a reference would provide uncertainty for Member States when designing their state aid schemes.

We would therefore advise against referring to the EU Taxonomy Regulation and the ‘do no significant harm’ principle in points 69 and 113 or in any other part of the text.

About EUTurbines:

EUTurbines is the only association of European gas and steam turbine manufacturers. Its members are Ansaldo Energia, Baker Hughes, Doosan Skoda Power, GE Power, MAN Energy Solutions, Mitsubishi Power Europe, Siemens Energy and Solar Turbines. EUTurbines advocates an economic and legislative environment for European turbine manufacturers to develop and grow R&I and manufacturing in Europe and promotes the role of turbine-based power generation in a sustainable, decarbonised European and global energy mix. For more information please see www.euturbines.eu

Summary of suggested modifications

Draft CEEAG	*Proposed Changes*
Point 69: In that balancing exercise, the Commission will pay particular attention to Article 3 of Regulation (EU) 2020/852 of the European Parliament and of the Council[50], including the 'do no significant harm' principle, or other comparable methodologies. Futhermore, as part of the assessment of the negative effects on competition and trade, the Commission may take into account, where relevant, negative externalities of the aided activity where such externalities adversely affect competition and trade between Member States to an extent contrary to the common interest by creating or aggravating market inefficiencies including in particular those externalities that may hinder the achievement of climate objectives set under EU law.	~~In that balancing exercise, the Commission will pay particular attention to Article 3 of Regulation (EU) 2020/852 of the European Parliament and of the Council[50], including the 'do no significant harm' principle, or other comparable methodologies. Futhermore,~~ as part of the assessment of the negative effects on competition and trade, the Commission may take into account, where relevant, negative externalities of the aided activity where such externalities adversely affect competition and trade between Member States to an extent contrary to the common interest by creating or aggravating market inefficiencies including in particular those externalities that may hinder the achievement of climate objectives set under EU law.
Section 4.1, Point 82: Decarbonisation measures targeting specific activities which compete with other unsubsidised activities can be expected to lead to greater distortions of competition, compared to measures open to all competing activities. Therefore, Member States should give reasons for measures which do not include all technologies and projects that are in competition – for example all projects operating in the electricity market, or all undertakings producing substitutable products and which are technically capable of contributing efficiently to greenhouse gas emissions reductions. These reasons should be based on objective considerations linked, for example, to efficiency or costs or other relevant circumstances. Such reasons may draw on evidence gathered in the public consultation pursuant to Section 4.1.3.4 where applicable.	**Eligible costs include the full operating cost gap between the environmental friendly and the established environmental harmful solution.** Decarbonisation measures targeting specific activities which compete with other unsubsidised activities can be expected to lead to greater distortions of competition, compared to measures open to all competing activities. Therefore, Member States should give reasons for measures which do not include all technologies and projects that are in competition – for example all projects operating in the electricity market, or all undertakings producing substitutable products and which are technically capable of contributing efficiently to greenhouse gas emissions reductions. These reasons should be based on objective considerations linked, for example, to efficiency or costs or other relevant circumstances. Such reasons may draw on evidence gathered in the public consultation pursuant to Section 4.1.3.4 where applicable.
Section 4.1, Point 103: Aid for decarbonisation can take a variety of forms including up front grants and contracts	Aid for decarbonisation can take a variety of forms including up front grants and contracts

for ongoing aid payments such as contracts for difference. Aid which covers costs mostly linked to operation rather than investment should only be used where the Member State clearly demonstrates that this results in more environmentally friendly operating decisions.	for ongoing aid payments such as contracts for difference. Aid which covers costs mostly linked to operation rather than investment should only be used where the Member State clearly demonstrates that this results in more environmentally friendly operating decisions. **Under certain boundary conditions (e.g. time constraints), the operating cost gap between the environmental friendly and the established environmental harmful solution can be covered by state aid up to 100% to initiate economy of scale effects.**
Section 4.1, Point 110: Similarly, measures that incentivise new investments in energy or industrial production based on natural gas may reduce greenhouse gas emissions and other pollutants in the short term but aggravate negative environmental externalities in the longer term, compared to alternative investments. For investments in natural gas to be seen as having positive environmental effects, Member States must explain how they will ensure that the investment contributes to achieving the Union's 2030 climate target and 2050 climate neutrality target. In particular, the Member States should explain how a lock in of this gas-fired energy generation or gas-fired production equipment will be avoided. For example, this may include binding commitments by the beneficiary to implement decarbonisation technologies such as CCS/CCU or substitute natural gas by renewable or low carbon gas or to close the plant on a timeline consistent with the Union's climate targets.	Similarly, measures that incentivise new investments in energy or industrial production based on natural gas may reduce greenhouse gas emissions and other pollutants in the short term but aggravate negative environmental externalities in the longer term, compared to alternative investments. For investments in natural gas to be seen as having positive environmental effects, Member States must explain how they will ensure that the investment contributes to achieving the Union's 2030 climate target and 2050 climate neutrality target. In particular, the Member States should explain how a lock in of this gas-fired energy generation or gas-fired production equipment **into natural gas** will be avoided. For example, this may include binding commitments ~~by the beneficiary~~ **to install technology ready for the use with renewable and climate-neutral gases (for example, "hydrogen-ready" technology) and ensure the substitution of natural gas by renewable or low carbon gas, or** to implement decarbonisation technologies such as CCS/CCU ~~or substitute natural gas by renewable or low carbon gas~~ or to close the plant on a timeline consistent with the Union's climate targets.
Section 4.1, Point 113: Provided that all other compatibility conditions are met, the Commission will typically find the balance for decarbonisation measures to be positive (that is to say, distortions to the internal market are outweighed by positive effects) in the light of their contribution to climate change mitigation, which is defined as an	Delete

environmental objective in Regulation (EU) 2020/852, as long as there are no obvious indications of non-compliance with the do no significant harm principle.	
Section 4.8, Point 286 Such measures may also be designed to support environmental protection objectives, for example through the exclusion of more polluting capacity or measures to give more environmentally beneficial capacity an advantage in the selection process.	Delete.
Section 4.9, Point 299 In its assessment, the Commission will take account of the following elements to be provided by the Member State: (a) an assessment of the impact of variable generation, including that originating from neighbouring systems; (b) an assessment of the impact of demand-side participation including a description of measures to encourage demand side management; (c) an assessment of the actual or potential existence of interconnectors and major transmission grid infrastructure, including a description of projects under construction and planned; (d) an assessment of any other element which might cause or exacerbate the security of electricity supply problem, such as caps on wholesale prices or other regulatory or market failures. Where required under Regulation (EU) 2019/943, the implementation plan referred to in Article 20 (3) of that Regulation must be subject to a Commission opinion before aid can be granted. The implementation plan and opinion will be taken into account in the necessity assessment.	In its assessment, the Commission will take account of the following elements to be provided by the Member State: (a) an assessment of the impact of variable generation, including that originating from neighbouring systems; **(new a) an assessment of the impact of end use electrification on seasonal, weekly and daily peak demand;** (b) an assessment of the impact of demand-side participation including a description of measures to encourage demand side management; (c) an assessment of the actual or potential existence of interconnectors and major transmission grid infrastructure, including a description of projects under construction and planned; (d) an assessment of any other element which might cause or exacerbate the security of electricity supply problem, such as caps on wholesale prices or other regulatory or market failures. Where required under Regulation (EU) 2019/943, the implementation plan referred to in Article 20 (3) of that Regulation must be subject to a Commission opinion before aid can be granted. The implementation plan and opinion will be taken into account in the necessity assessment.

Section 4.8, Point 304 Member States are encouraged to introduce additional criteria or features in their security of supply measures to promote the participation of greener technologies (or reduce the participation of polluting technologies) necessary to support the delivery of the Union's environmental protection objectives. Such additional criteria or features must be objective, transparent and non-discriminatory in relation to clearly identified environmental protection objectives, and must not result in the overcompensation of beneficiaries.	Member States ~~are encouraged to~~ **can** introduce additional criteria or features in their security of supply measures to promote the participation of greener technologies ~~(or reduce the participation of polluting technologies)~~ necessary to support the delivery of the Union's environmental protection objectives. Such additional criteria or features must be objective, transparent and non-discriminatory in relation to clearly identified environmental protection objectives, and must not result in the overcompensation of beneficiaries.
Section 4.8, Point 326: Measures that incentivise new investments in energy generation based on natural gas may support security of electricity supply but aggravate negative environmental externalities in the longer term, compared to alternative investments in non-emitting technologies. To enable the Commission to verify that the negative effects of such measures can be offset by positive effects in the balancing test, Member States should explain how they will ensure that such investment contributes to achieving the Union's 2030 climate target and 2050 climate neutrality target. In particular, the Member States should explain how a lock-in of this gas-fired energy generation will be avoided. For example, this may include binding commitments by the beneficiary to implement decarbonisation technologies such as CCS/CCU or substitute natural gas by renewable or low carbon gas or to close the plant on a timeline consistent with the Union's climate targets.	Measures that incentivise new investments in energy generation based on natural gas may support security of electricity supply but aggravate negative environmental externalities in the longer term, compared to alternative investments in non-emitting technologies. To enable the Commission to verify that the negative effects of such measures can be offset by positive effects in the balancing test, Member States should explain how they will ensure that such investment contributes to achieving the Union's 2030 climate target and 2050 climate neutrality target. In particular, the Member States should explain how a lock-in of this gas-fired energy generation **into natural gas** will be avoided. For example, this may include binding commitments ~~by the beneficiary~~ **to install technology ready for the use with renewable and climate-neutral gases (for example, "hydrogen-ready" technology) and ensure the substitution of natural gas by renewable or low carbon gas, or** to implement decarbonisation technologies such as CCS/CCU ~~or substitute natural gas by renewable or low carbon gas~~ or to close the plant on a timeline consistent with the Union's climate targets.
Section 4.10, Point 340: The construction or the upgrade of district heating and cooling systems can make a positive contribution to environmental protection by increasing the energy efficiency	The construction or the upgrade of district heating and cooling systems can make a positive contribution to environmental protection by increasing the energy efficiency

and sustainability of the supported system. However, the environmental externalities associated with the operation of district heating and cooling can lead to inefficient underinvestment in the construction and upgrade of district heating and cooling systems. State aid can contribute to addressing this market failure by triggering additional efficient investment	and sustainability of the supported system. However, the environmental externalities associated with the operation of district heating and cooling can lead to inefficient underinvestment in the construction and upgrade of district heating and cooling systems. State aid can contribute to addressing this market failure by triggering additional efficient investment. **Under certain boundary conditions (e.g. time constraints), the operating cost gap between the environmental friendly and the established environmental harmful solution can be covered by state aid up to 100% to initiate economy of scale effects.**
Section 4.10, Point 348: As regards the construction or upgrade of district heating generation installations, measures that incentivise new investments in energy based on natural gas may reduce greenhouse gas emissions in the short run but aggravate negative environmental externalities in the longer run, compared to alternative investments. For those investments in natural gas to be seen as having positive environmental effects, Member States must explain how they will ensure that the investment contributes to achieving the Union's 2030 climate target and 2050 climate neutrality target and, in particular, how a lock-in of the gas-fired energy generation or gas-fired production equipment will be avoided. For example, this may include binding commitments by/from the beneficiary to implement CCS/CCU or substitute natural gas by renewable or low carbon gas or to close the plant on a timeline consistent with the Union's climate targets.	As regards the construction or upgrade of district heating generation installations, measures that incentivise new investments in energy based on natural gas may reduce greenhouse gas emissions in the short run but aggravate negative environmental externalities in the longer run, compared to alternative investments. For those investments in natural gas to be seen as having positive environmental effects, Member States must explain how they will ensure that the investment contributes to achieving the Union's 2030 climate target and 2050 climate neutrality target and, in particular, how a lock-in of the gas-fired energy generation or gas-fired production equipment **into natural gas** will be avoided. For example, this may include binding commitments ~~by/from the beneficiary~~ **to install technology ready for the use with renewable and climate-neutral gases (for example, "hydrogen-ready" technology) and ensure the substitution of natural gas by renewable or low carbon gas, or** to implement CCS/CCU ~~or substitute natural gas by renewable~~ or low carbon gas or to close the plant on a timeline consistent with the Union's climate targets.