# ZEP response to consultation on the Guidelines on State aid for environmental protection and energy

The Zero Emissions Platform (ZEP) is a European Technology and Innovation Platform (ETIP) under the Commission's Strategic Energy Technology Plan (SET-Plan), and acts as the EU's technical adviser on the deployment of Carbon Capture and Storage (CCS), and Carbon Capture and Utilisation (CCU) under Horizon2020 R&I programme (grant agreement 826051).

ZEP supports the European Union's (EU) commitment to reach climate neutrality by 2050, defined as net-zero greenhouse gas (GHG) emissions by 2050. To this end, carbon capture and storage (CCS) and carbon capture and utilisation (CCU) technologies play a crucial role. These technologies represent a readily available, cost-efficient pathway for the decarbonisation of industrial and energy sectors in the EU, safeguarding industrial competitiveness and welfare, preserving existing jobs and creating new ones.

ZEP is pleased to provide input to the consultation on Guidelines on State aid for environmental protection and energy (EEAG) and would like to highlight the following.

**General Comments**

The guidelines need to be updated and aligned with the market developments and the more ambitious new climate agenda, the European Green Deal, the European Climate Law for climate neutrality by 2050, the EU Taxonomy for Sustainable Finance (Taxonomy) and linked initiatives. It is crucial that the guidelines are compliant with net-zero GHG emissions by 2050 and the new climate target to reduce GHG emissions by 55% compared to 1990 levels by 2030.

CCS is essential for Europe to reach climate neutrality by 2050 in a cost-efficient way, is deemed sustainable in the Taxonomy and may be the only alternative to decarbonise the many industries in hard-to-abate industrial sectors, such as steel, cement and chemicals. The European Commission's consideration that "the aid for CCS contributes to the common objective of environmental protection" in order to promote the long term decarbonisation objectives has become even more valid. This, in combination with the expectance that the market failure for many CCS projects will still exist for some time, makes it crucial to continue the current setup in the guidelines, stimulating commercial deployment of CCS, enabling state aid at an intensity of 100% for CCS projects, allowing both operating and investment aid. This is even more essential as Europe recovers from the COVID-19 crisis.

When updating the guidelines in accordance with the current technological, market and climate developments, new areas need to be included:

- *$CO_2$ transport via modalities other than pipelines* – As geological storage sites are not evenly distributed among member states, the large-scale deployment of cross-border, European $CO_2$ transport and storage infrastructure is crucial to reach the EU's objective of net-zero GHG emissions by 2050. This infrastructure will enable clean, competitive energy and industrial sectors, early large-scale clean hydrogen and, not least, the delivery of significant volumes of carbon emission removals (CDR). In line with the Taxonomy, transfer of captured $CO_2$ to a storage site by all modalities – pipeline, ship, barge, truck, and train – should be taken into account in the guidelines.

- *Retrofitting of natural gas networks into $CO_2$ pipelines* – Investments to retrofit existing natural gas pipeline networks into $CO_2$ pipeline networks, with the main purpose to integrate captured $CO_2$ for permanent storage, will in many cases be advantageous and cut initial infrastructure costs. As a reference, the Taxonomy has included retrofit of gas pipelines for integration of captured $CO_2$ for permanent storage as a sustainable investment in a net-zero economy.

- *Carbon Dioxide Removals* – The European Commission's communication on the European Green Deal and proposal for a European Climate Law for climate neutrality by 2050 indicate that CDR will be needed to achieve the objective of net-zero GHG emissions by 2050. With European climate neutrality by 2050 only possible if mitigation efforts are supplemented with the removal of $CO_2$ from the atmosphere, it is essential to include CDR in the guidelines.

- *Deployment of low-carbon hydrogen infrastructure* – Hydrogen has a central role in the European Green Deal, and the EU hydrogen strategy that was published in July 2020 includes both renewable and low-carbon hydrogen with CCS. Low-carbon hydrogen with CCS will play a key role in paving the way towards a clean hydrogen economy for Europe, as the only opportunity to deliver early, large-scale quantities of hydrogen to industries and thus kickstarting a cost-efficient decarbonisation.

- *Retrofitting of natural gas networks into low-carbon hydrogen infrastructure* – Investments to retrofit existing natural gas pipeline networks into renewable and or low-carbon hydrogen infrastructure should be included in the guidelines in line with arguments above.

**Comments to specific paragraphs**

Below are comments to specific paragraphs based on the descriptions above. More general updates needed to align the text with the market developments and the new, more ambitious climate agenda are not included.

| Paragraph 31 |
|---|

| Text | ZEP suggestion |
|---|---|
| 'energy infrastructure' means any physical equipment or facility which is located within the Union or linking the Union to one or more third countries and falling under the following categories | **Include a new sub chapter on low-carbon hydrogen infrastructure in paragraph 31.** |

| Paragraph 31 (d) | |
|---|---|
| Text | ZEP suggestion |
| concerning CO2: networks of pipelines, including associated booster stations, for the transport of CO2 to storage sites, with the aim to inject the CO2 in suitable underground geological formations for permanent storage | concerning CO2: networks of pipelines **or other transport modalities such as ships, trucks, rail and barges,** including associated booster stations, for the transport of CO2 to storage sites, with the aim to inject the CO2 in suitable underground geological formations for permanent storage |

| Paragraph 33 (a) | |
|---|---|
| Text | ZEP suggestion |
| abatement technologies: the amount of greenhouse gases or pollutants that are permanently not emitted in the atmosphere (resulting in reduced input from fossil fuels) | abatement **and Carbon Dioxide Removal** technologies: the amount of greenhouse gases or pollutants that are permanently not emitted in the atmosphere **or removed from the atmosphere** (resulting in reduced input from fossil fuels); |

| Paragraph 160 | |
|---|---|
| Text | ZEP suggestion |
| As recognised by Directive 2009/31/EC (73) ('the CCS Directive') and the Commission Communication on the future of CCS in Europe (74), CCS is a technology that can contribute to mitigating climate change. In the transition to a fully low-carbon economy, CCS technology can reconcile the demand for fossil fuels, with the need to reduce greenhouse gas emissions. In some industrial sectors, CCS may currently represent the only technology option able to reduce process-related | As recognised by Directive 2009/31/EC (73) ('the CCS Directive') and the Commission Communication on the future of CCS in Europe (74), CCS is a technology that can contribute to mitigating climate change **as well as Carbon Dioxide Removal**. In the transition to a fully low-carbon economy, CCS technology can reconcile the demand for fossil fuels, with the need to reduce greenhouse gas emissions **or remove CO2 from the atmosphere**. In some industrial sectors, CCS may |

| | |
|---|---|
| emissions at the scale needed in the long term. Given that the cost of capture, transport and storage is an important barrier to the uptake of CCS, State aid can contribute to fostering the development of this technology. | currently represent the only technology option able to reduce process-related emissions at the scale needed in the long term. Given that the cost of capture, transport and storage is an important barrier to the uptake of CCS, State aid can contribute to fostering the development of this technology. |

| Paragraph 164 | |
|---|---|
| Text | ZEP suggestion |
| … or other industrial installations equipped with CO2 capture, transport and storage facilities, or individual elements of the CCS chain. … | … or other industrial installations equipped with CO2 capture, transport and storage facilities, or individual elements of the CCS chain **(taking into account both mitigation and Carbon Dioxide Removal)**. … |

| Paragraph 165 | |
|---|---|
| Text | ZEP suggestion |
| The aid is limited to the additional costs for capture, transport and storage of the CO2 emitted. It is generally accepted that the counterfactual scenario would consist in a situation where the project is not carried out as CCS is similar to additional infrastructure which is not needed to operate an installation. In view of this counterfactual scenario, the eligible costs are defined as the funding gap. All revenues, including for instance cost savings from a reduced need for ETS allowances, NER300 funding and EEPR funding are taken into account (75). | The aid is limited to the additional costs **– both operating and investment aid –** for capture, transport and storage of the CO2 emitted **(taking into account both mitigation and Carbon Dioxide Removal)**. It is generally accepted that the counterfactual scenario would consist in a situation where the project is not carried out as CCS is similar to additional infrastructure which is not needed to operate an installation. In view of this counterfactual scenario, the eligible costs are defined as the funding gap. All revenues, including for instance cost savings from a reduced need for ETS allowances, NER300 funding and EEPR funding are taken into account (75). **(text to be generally updated)** |

| Paragraph 201 | |
|---|---|
| Text | ZEP suggestion |
| A modern energy infrastructure is crucial for an integrated energy market, which is | A modern energy infrastructure is crucial for an integrated energy market, which is |

| | |
|---|---|
| key to ensuring energy security in the Union, and to enable the Union to meet its broader climate and energy goals. The Commission has estimated total investment needs in energy infrastructures of European significance until 2020 at about EUR 200 billion (89). That assessment was based on an evaluation of the infrastructure needed to allow the Union to meet the overarching policy objectives of completing the internal energy market, ensuring security of supply and enabling the integration of renewable sources of energy. Where market operators cannot deliver the infrastructure needed, State aid may be necessary in order to overcome market failures and to ensure that the Union's considerable infrastructure needs are met. This is particularly true for infrastructure projects having a cross-border impact or contributing to regional cohesion. Aid to energy infrastructure should in principle be investment aid, including its modernisation and upgrade. | key to ensuring energy security in the Union, and to enable the Union to meet its broader climate and energy goals. The Commission has estimated total investment needs in energy infrastructures of European significance until 2020 at about EUR 200 billion (89). That assessment was based on an evaluation of the infrastructure needed to allow the Union to meet the overarching policy objectives of completing the internal energy market, ensuring security of supply and enabling the integration of renewable sources of energy. Where market operators cannot deliver the infrastructure needed, State aid **– both operating and investment aid –** may be necessary in order to overcome market failures and to ensure that the Union's considerable infrastructure needs are met. This is particularly true for infrastructure projects having a cross-border impact or contributing to regional cohesion. Aid to energy infrastructure should in principle be investment aid, including its modernisation and upgrade. |