Q16. Based on your experience, have the EEAG and GBER adequately addressed recent market developments or technological changes such as: hydrogen, synthetic fuels and low carbon gas; carbon capture and storage?

The current EEAG are not tailored to state aid for large-scale low-carbon gas projects or infrastructure, including for hydrogen. As a broad energy company with several CCS and low-carbon hydrogen projects planned, we anticipate potential obstacles for state funding, which is crucial for the scale-up phase of hydrogen technologies in the energy sector applications.

Hydrogen

Against the backdrop of the EU's 2030 GHG emission reduction commitments under the Paris Agreement as well as further decarbonisation of the energy systems in the EU towards mid-century, hydrogen will according to the European Commission, the International Energy Agency as well as the UK Committee on Climate Change play a crucial role as clean energy carrier in various energy-intensive applications, for energy storage as well as sector integration. The forthcoming revision of internal market rules for natural gas will aim to create the framework conditions for low-carbon gases. Such a framework must be fine-tuned with the State Aid Guidelines as state funding will be instrumental for major low-carbon gas infrastructure projects.

Equinor currently has several large-scale hydrogen projects planned that aim to demonstrate the viability of hydrogen for 1) decarbonising baseload power production by converting a natural gas-based power plant to combust hydrogen (H2M project in the Netherlands); as well as 2) converting natural gas grid to supply hydrogen to consumers for clean heating (H21 project in the UK) as well as industrial uses (H2morrow project in Germany). These projects involve major infrastructure components that will necessitate substantial state funding, which the EEAG must be tailored to.

The main issue is that hydrogen or low-carbon gases in general are not specifically covered under any of the outlined sections of the EEAG. In our reading, hydrogen could potentially be considered under the energy infrastructure as well as the generation adequacy chapters, given the vast scope of potential hydrogen applications in the energy sector. However, hydrogen / low-carbon gases are not included in the definition of energy infrastructure (part 1.3 item (31), which outlines the power, gas, oil and CCS sectors only) in the EEAG. This hinders future projects from qualifying for financial support as energy infrastructure projects. Therefore, we consider that the EEAG should incorporate hydrogen / low-carbon gases in the definition of energy infrastructure and review the chapter accordingly or create a separate chapter on hydrogen / low-carbon gas applications, in line with the future gas regulatory framework.

Part 3.2.1.2. item (33) of the EEAG lists several additional indicators for individually notifiable aid assessing a project's contribution to decarbonisation, namely GHG abatement technologies, early adaptation to Union standards as well as future Union standards. In principle, hydrogen / low-carbon gas projects would comply with these indicators. However, they are only considered secondary in the EEAG context and are not coordinated with the energy infrastructure and generation adequacy

chapters in the context of low-carbon gases. The future EEAG should establish conditions that would encourage member states to prioritise low-carbon energy infrastructure and generation adequacy projects, where GHG emission abatement potential is one of the most relevant criteria for granting state aid.

The definition of hydrogen / low-carbon gases should be based on GHG emission performance to enable the scale-up of the most promising technologies to foster energy system decarbonisation in the EU. We are strongly in favour of a technology-neutral approach that would create a level-playing field for low-carbon technologies. Therefore, defining hydrogen / low-carbon gas technologies in the context of the EEAG must be based on life-cycle emissions criteria to allow for a balanced and inclusive approach to potential solutions to enable a realistic decarbonisation of the EU energy system.

CCS

CCS projects can qualify for state support under the current EEAG. However, we observe several regards in which the rules are outdated and should therefore be upgraded to match future expectations for CCS projects in the EU.

First, the definition of energy infrastructure concerning CO2 as defined in part 1.3 item (31) (d) of the EEAG only concerns pipeline networks, not waterborne solutions. At the same time, the chapter on aid to CCS in part 3.6 item (164) allows for state aid to transport of CO2 without providing a definition of CO2 transport modes. It is therefore unclear that waterborne solutions to transport CO2 for permanent storage can receive state funding.

A number of new CCS projects across Europe are based on shipping solutions connecting to pipelines for CO2 storage – as is the case with the Equinor's Northern Lights project, which has the PCI status. In case the definition of energy infrastructure for CO2 is not modified to include shipping, ship-based CCS projects could face difficulties to access public funding. Such provisions could then hamper the development of CCS across the EU as CO2 transport by ship is more flexible compared to pipeline, which is important in the scale-up phase.

Second, the definition of CCS in part 1.3 item (33) refers to CO2 captured from industrial plants based on fossil fuels or biomass. We understand this today also to include natural gas reforming plants but believe it useful to further specify that such infrastructure is covered.

In addition, the definition of permanent CO2 storage in the definition of CCS could be expanded beyond geological formations to provide a more flexible approach to CO2 storage options. While Equinor’s projects focus exclusively on storing the captured CO2 in geological formations on the Norwegian Continental Shelf, we do recognise there might be alternatives to safely store CO2, which should be reflected in the upgraded EEAG.

Finally, with regard to CCU, we believe it is crucial that where CCU technologies are included in the scope of the EEAG their eligibility to funding should refer to life-cycle emissions criteria so as to guarantee that any state-funded CCU projects effectively contribute to GHG emission reduction and not only circularity.